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EXTRACT

From an Act prescribing Rules for the Government of the State Library, passed March 8th, 1861.

SECTION 11. The Librarian shall cause to be kept a register of all books issued and returned; and all books taken by the members of the Legislature, or its officers, shall be returned at the close of the session. If any person injure or fail to return any book taken from the Library, he shall forfeit and pay to the Librarian, for the benefit of the Library, three times the value thereof; and before the Controller shall issue his warrant in favor of any member or officer of the Legislature, or of this State, for his per diem, allowance, or salary, he shall be satisfied that such member or officer has returned all books taken out of the Library by him, and has settled all accounts for injuring such books or otherwise.

SEC. 15. Books may be taken from the Library by the members of the Legislature and its officers during the session of the same, and at any time by the Governor and the officers of the Executive Department of this State who are required to keep their offices at the seat of government, the Justices of the Supreme Court, the Attorney-General, and the Trustees of the Library.

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Entwistle's Patent Method of Transmitting Rotary Motion.

A development of ingennity and a simplification of mechanical devices are everywhero apparent in the constructive world. We look from the old and cumbersome con-

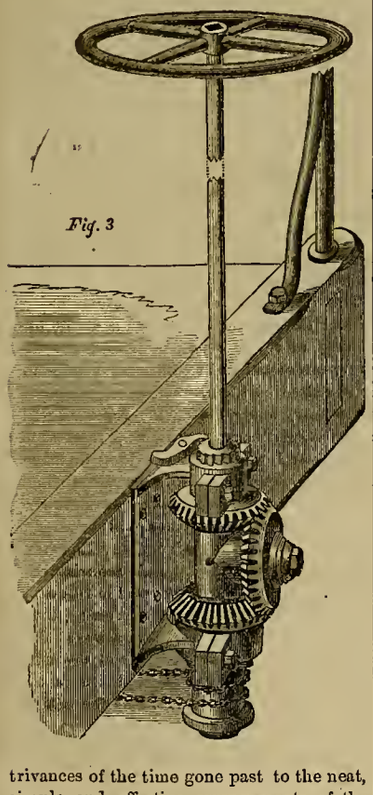
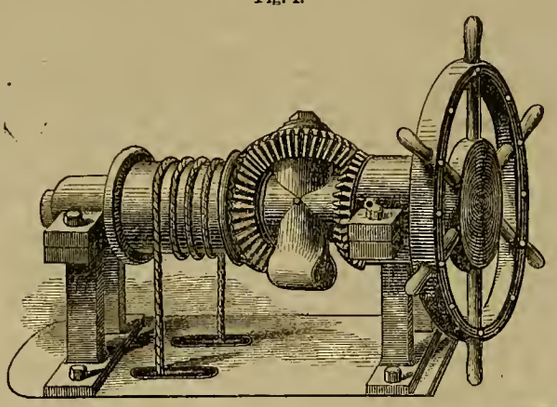


Fig. 3

trivances of the time gone past to the neat, simple and effective arrangements of the present day, and often almost involuntarily express surprise that the new idea had not been thought of before. We are forcibly reminded of this in viewing the method of transmitting rotary motion which we illustrate in this article. It is an arrangement of bevel-gearing by which rotary motion is increased or diminished in velocity on a single line of shafting. It accomplishes with three gears what has never before been accomplished on one line of shafting with that number. Two of theso gears have a common axis, and the axis of the third is radial to and revolves around tho first-named axis.

Fig. 1 represents an application of this invention to a steering apparatus, Fig. 2 to the rotation of a propeller, Fig. 3 its application to a ear-brake, and Fig. 4 as a means of operating drills with the bit-stock. Fig. 5 is a vertical section of the gearing of the steering apparatus. In this sectional view, A, A are the upright standards, such as are commonly used for supporting the wheel-shaft of a steering apparatus, as shown in Fig. 1. B is the horizontal shaft supported

Fig. 1.



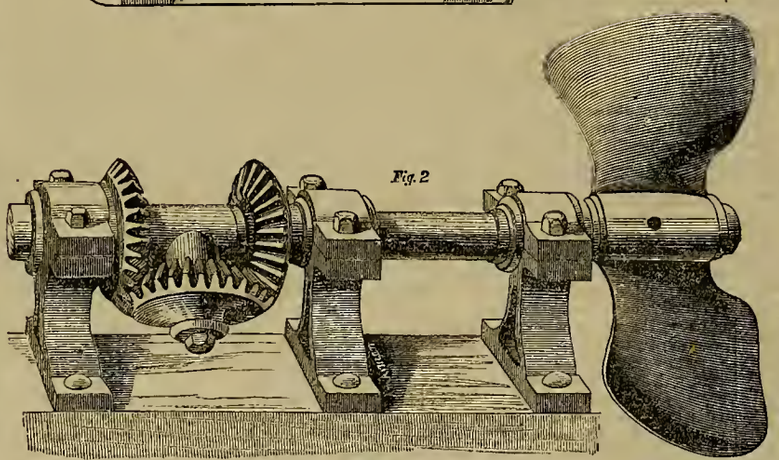


Fig. 2

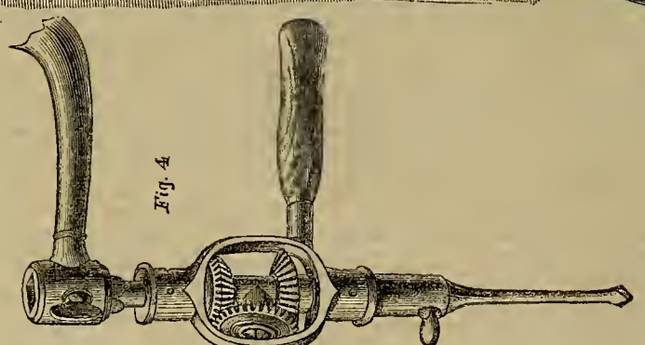
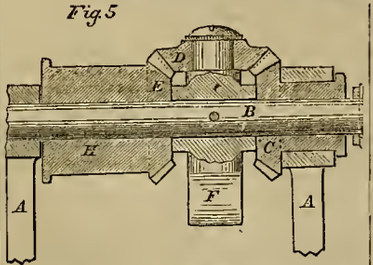


Fig. 4

Fig. 5



in the standards and turning with the wheel. The drum, H, is fitted to turn freely on the shaft, B, and the gear, E, is made fast to this drum, and turns with it. The gear, C, is made fast to the standard upon which it finds a support, and is a permanent fixture and not capable of rotation; the shaft, B, passes through this gear, the axial bore of which serves as a bearing for the shaft. Between the two gears and keyed fast to the shaft, is placed a hub which carries the third gear, D. This gear turns freely upon an axle which is made at an angle of 90° with the line of tho shaft. A counterpoise or weight, F, serves to balance the weight of the gear, D. The operation of the apparatus is as follows: the shaft, B, being rotated, carries the gear, D, and counterpoise with it in its revolution, and a motion is also given to the gear, about its own axis by its being engaged with tho gear, C. At the opposite point of the periphery to that which engages with C, tho gear, D, also engages the gear, E, attached to the drum, and the componnd rotation communicated to D gives a rotative motion to E in the same direction as the wheel and shaft, but at a velocity double that of the shaft. This double revolution is produced—owing to the gear, D, being made to operate as a lever of the third class—the fulcrum of which is at the pitch-line of the gear, C, the weight at E, and the power applied at the center of the axle of the gear, D. As the power is equi-distant between the fulcrum and the weight, the weight moves twice as fast as the power.

This same combination and arrangement of gearing may be applied for a great variety of purposes. On account of its compactness, it can be used with especial advantage for driving screw propellers at a higher rate of speed than the engine. In this case, the engine-shaft is placed in line with the propeller-shaft, the axle on which the gear, D, revolves is made fast to the engine-shaft, the gear, C, is fixed to the standard, and the gear, E, is firmly keyed to the propeller-shaft. If the gears are all of one size, two revolutions of the propeller are obtained for one of the engine-shaft. The compactness of the arrangement also renders it peculiarly applicable to railroad brakes, as shown in Fig. 3, and renders it a very convenient attachment to a bit-stock, as shown in Fig. 4.

In applying this motion to tho reduction of speed, the power would be applied to the gear, E, the rotary motion of which would cause the gear, D, to rotate around the axis of the shaft, and so creep aronnd the gear, C, and give rotary motion to any attached shaft at the rate of half a revolution for every revolution of E. In this operation the gear, D, operates as a lever of the second class, the fulcrum of which is at the pitch-line of the gear, C, the power being applied at the point of contact of the gear, E, the weight being at the axial center of D. As the weight is equi-distant between the fulcrum and the power, it only moves half as fast as the power.

It must not be understood that the sizes of the three gears are required to be uniform. Tho size may be varied, and the movement transmitted will be increased or diminished in velocity according to the relative size of the gears, C and E. If the gears, C and E, are not of uniform size, the axle of D will require to be set obliqne to the shaft, B, instead of the angle of 90°, as represented.

A patent for this method of transmitting motion was obtained on Sept. 14, 1866, by Thomas C. Entwistle, of New York city, and first illustrated in the *American Artisan* March 6th, 1867. For further information address the Entwistle Patent Transmitting Motion Association, No. 149 Water street, New York city.

Modern Book Manufacturing on an Extensive Scale.

The following well written description of the new printing house and bindery of D. Appleton & Co., in Brooklyn, N. Y., illustrates the rapid growth of the bnsiness, and contains many facts not generally known, which aro of interest to every reader.

As the visitor approaches the buildings from the direction of the Williamsburgh Ferry—five minutes' ride by horse-cars—his first impression is of a watch factory. It is all windows. Having suffered from the inevitable deficiency of light in New York, Appleton & Co. determined that the sun should turn his full eye on their business in Brooklyn. Besides the advantages of eomplete solar illumination for the finest kind of book-work, it is a good thing for the health and morals of artisans, and that was an important point. Sickly people may write books, but it takes well ones to print and hind them.

Kent Avenue, a wide thoroughfare, up and down which the cars run between the two divisions of present Brooklyn, fronts the pile. It is a goodly façade—the westorn one. Its general appearance is castellated. There are great tower-like structures at eaeh end, connected hy a less elevated range; and midway of the latter a mighty douhle gate of oak and iron, at which one looks to see a warder standing. This front is 200 feet. On Penn Street, to the south, the building is one story high, and extends 193 feet; on Hewes Street, north, it is four stories high, and 252 feet. When the contemplated additions are made, the Appletons will occupy a strongly-fortified quadrilateral, where they can hold out for an unlimited period against the severest siege of the hook-huyers. The entire area then enclosed will be 55,100 square feet, or one and a quarter acres. Of this the huildings, with all the projected improvements, will not occupy more than two-thirds—thus leaving in the eentre an ample space for the sunlight to rest and the winds of heaven to play in. Over a million cubic feet of space are ineluded in the buildings, as they now stand. So says the architect, and people generally will take his word for it, in preference to measuring for themselves.

A great factory, in which many different processes conduct to one eonclusion, is a piece of logie, which, to be understood, must be followed out from the heginning. Therefore, the visitor who would examine the Appletons' establishment intelligently, should eommence with the Printing-Houso to the right of the central gateway on Kent Avenue. Here, first is the "White Stock" Room, occupying a large part of the hasement. Thousands of reams are piled up, awaiting their turn, which will soon come, to he transformed, as by magic, into books. Beyond this department is a long stretch of vaults, as dark and snug, but not as damp, as the catacombs of Rome. This is the depository of all the stereotype plates of the house. They are packed into over 10,000 boxes, which are plainly labelled, and stowed orderly; so that, at a moment's notice, whenever the public demand a new edition of a book, the plates may be whisked out of their sepulchre and put upon the presses up-stairs. Iron doors and shutters, and thick hrick arches, make these vaults, with their precious contents, fire-proof.

On the first floor of the Printing-House, directly over the Paper-Stock Room, is a room for pressing paper. This is done by five hydraulie presses, of immense power, whose foundations are set in the solid ground heneath. By this process a eompact and glossy surface is imparted to the paper. To the right of this apartment is the Wetting-Room, where, hy machinery, the paper is dampened to the exact degree neeessary for fine presswork. Here again, as often happens, a combinatiou of wheels and levers performs a task better than a living hand, even the most intelligeut and faithful, could do it. Thus prepared, the paper is ready for the nineteen powerful steam presses, which are quietly elieking away in the next room. This apartment is 150 feet long, and 60 feet wide, very high, a mass of windows on each side, as well lighted as a Crystal Palace, and perfectly ventilated. Tho presses inelude varieties for every kind of work—the Adams, the Hoe, the Camphell, and French patterns. One sturdy little press is pointed out, which does nothing hut print Webster's Spellers. Year in and year out it labors unceasingly to meet the demand for that standard schoolhook, the first intellectual food given to Young America—a tender and appropriate nutriment, which the experienee of two generations has now eonfirmed as the hest, and which is not likely soon to he superseded. The iron-hearted little press will wear itself out, and be cast aside, and many others like it, long before Webster will go out of fashion. In moving about among this ingenious hut insensate machinery, one cannot help noticing the bright-looking girls who stand beside each of the presses, like a keeper beside an elephant, and fill its ravenous maw continually. The plumpness and rosiness of these nimble servitors proclaim the husiness to be healthful, at least as conducted in such well-lighted and airy rooms. Mr. Dunne, who has had charge of the Appletons' press-work for a long time, presides over the whole of this department, and sees that every sheet is perfect, before it is trundled over the little hridge which eounects the Printing-House with the Bindery.

Only one branch—the Drying Room—remains to be examined, in the dominion of Duune. This is a loft at the end of the Press-room. To this retreat the printed sheets are borne, damp and fragrant as newmown hay, and dried ou the same principle as a family-washing, but rather more scientifically. The outside air is freely admitted on all but the coldest days, and a temperature of ahout 70 degrees maintained hy steam-pipes.

Passing over the littlo drawhridge before mentioued, following a great load of Muhlhach ahead, and closely pursued hy the Dickens (cheap edition), the seeker for knowledge enters the Bindery, and the kingdom of Matthews, whose fortunes may be said to he hound up with the Appleton's. A polite pilot being placed at the visitor's disposal, he first descends to the hasement and looks at large piles of board and sheet stock and other material for covers. In a room adjoining this are odd lots of hooks, ten, or twenty, or a hundred, as the case may be, ealled the "overstock," representing the temporary excess of the supply of certain works over the demand. It is a wouder that the publishers hit the popular taste so closely. Great names are inscribed on some of the parcels; hut great names do uot always sell. The final destiny of the overstock is the paper-mill; much nohler, if one must choose, than going to the trunk-maker's.

Up-stairs, by the steam-elevator, to the first floor again. Hero is a room full of prints, some of tbem from the latest designs of the best artists of the Old and New Worlds, to be used in the illustrated works of the House; thence the explorer issues into an apartment so long that he can hardly see to the end of it. Soft throbs of machinery greet his ear, and, ou inquiry, he learns that a score of steam "folders" are performing their work with a speed and accuracy unattainable by human hands. This great room, too, is as light as day, and its atmosphere as pure as a garden's; and the 175 girls who feed the folders, or stitch the sheets when folded, or render other services on this floor, exhibit the bloom of health and the smile of eontentment.

The elevator again, and one is landed unfatigued on the second floor. A monotonous rattle, as of a steam chopping machine in full hlast, proves to emanate from a board-cutter, whieh being fed at one end with unlimited pasteboard, turus out 3,000 pairs of covers an hour, of any size wanted. This machine has a room all to itself. Next to it is the storage-place for the ealf, sheep morocco, and other leathers, and also the cloth for hinding; the whole smelling like a hran-new library. The rest of this floor is a duplicate, in point of size, of the one below it. About a hundred men are employed here, stamping, cutting, ease-making, and forwarding, which are various stages toward the consummation of the perfect work. Here are seen staeks of the Appletou standards, the freshest Muhlbach, the newest Dickens reprint, and other books "announced," and for whieh the orders are already pouring in. Looking, for a moment, at the quick motions of all these experts, it occasions no surprise to learn that 3,000 "Cyclopædias," 6,000 "Maria Antoinettes," 10,000 "Copperfields," and 15,000 or 20,000 small school-books, can be delivered from this department daily. Great as is the capacity of production, it seems to he fully tasked.

In just such another long, high, and admirably lighted room, on the third floor, are conducted the finer processes of gilding, marbling, and finishing. Here are men of ideas, of exeellent taste, of delicate touch, worthy to be called artists. Some of them originate heautiful desigus, in binding and ornamentation, as clover in their way as pictures and poems,—good ones we mean. The lovely work, for which Matthews has long been eelebrated, and which finds its highest expression in the famous gift-books of the House, is all done on this floor. Not less than $10,000 worth of gold-leaf is consumed here annually. It is a curious sight to see tbe skillful artist apply that most tenuous of substances to the lettering and embellishment of covers. Working in cobwebs, or the down of hutterfly-wings, could hardly be more difficult. Marhling, too, is a very interesting process. Drops of different-colored oils are swirled from hrushes hy a quick rotary movement hetween the workman's palms upon the surface of water in a trough. A rake with fine teeth is then drawn over the mottled surface hack and forth, and the oil-spots are hroken up and commingled into the most gorgeous symmetrical forms. Different combinations of colors, and different movements of the rake, produce totally different figures. The workman then takes a sheet of prepared paper between the thumh and the forefinger of each hand, drops it gently upon the colored surface of the water, and, a moment after, peels it off marbled. Each sheet requires the preparation of a new surface. To do this rapidly, and preserve a uniformity of pattern, demands great skill and experience in the operator. Science bas not yet been able to ahhreviate this rather tedious process.

Another and positively the last flight, by the elevator, lands the passenger on the fourth floor, the main part of which is devoted to packing Spellers, Cornell's Geographies, Quackenbos's Arithmetics, Harkuess's Grammars, and the other popular school-hooks of the House. About 15,000 Spellers are here hoxed and sent forth daily. At the beginning of the year, the demand for these Spellers poured in so thick and fast from all parts of the country (partieularly the South), that the Appletons were a half million copies in arrears; but, by steady pulling, night and day, they have eaught up, and are now prepared to fill orders with dispateh. This Packing-Room is one of the busiest places in the factory. Seventy-five men are here employed. Iu an adjaccnt room is a eurious machine, whieh should not be missed. It is a lithographic press, doing the same work as well by steam as it used to be done hy hand, and a great deal faster. On this press the maps for Appleton's Series of Geographies are printed.

In the eeuter of the ground, enclosed hy the buildings, stands the engine-house, where the motive-force is supplied by a splendid eugine of 80 horse-power. A carpenter's shop and a stahle for horses are eomprised among the other outhuildings.

For the present the type-settiug and stereotyping business of the House will he carried on in the Greene street building, New York, but it is intended eventually to remove those braneles to the Brooklyn establishment. For this purpose it will he neeessary, as previously intimated, to extend the accomodations on Hewes street, as well as to raise an additional story upon the huilding on Penn street. As the factory will be eonnected by private telegraph-wires with the Publishers' Offiee at their new Wholesale House, now completed, at the corner of Grand and Greene streets, New York, the same advantages will practically be enjoyed for the personal and sueeessful supervision of their business, as if all the departments were in New York and under the same roof.

Previous to fixing upon the plans of the Brooklyn structure, the leading printing-houses and hinderies of Europe were examined, with a view to incorporate their hest peculiarities in the new edifice; aud the result was the adoption of some of the hest features of the mammoth establishment of Mame at Tours, Franee (the model book-factory of the Old World), with a variety of original improvements, especially adapted to American usages and tastes. As a whole, it may eonfidently he asserted that the premises here described are without a superior, of their kind, in the world.

Good for Timber.—The Nevada *Gazette* says: "It has been asserted that the Pecan tree, which is so valuable, not only for its fruit hut for its timber, which can he made into excellent spokes, felloes and ax handles, will not grow in California. Last Saturday we saw one growing in the garden of Mons. Charonnat, in this couuty. It was planted from a nut in 1863, and is now thirteen feet high and eighteen inches in diameter. Its boughs are filled with fruit, and it gives a most heautiful shade. It is plain to our mind, that in the Sacramento Valley, in sueh parts as are not subjected to protracted overflow, it can be made to attain a much greater growth than in this eounty, where the winter frosts are severe. The value of the wood for manufacturing purposes cannot be over-estimated.

The English in India.—The total number of Englishmen in British India is only 150,000. Of these 58,000 are soldiers and officers; 3,500 civil and ecclesiastical officials, and the remaining 89,000 are engaged in trade and various occupations.

Our Mines.

The second quarter of the year closes under circumstances most favorable to the general industrial interests of the State. The severe and prolonged storms of last winter for a season entirely stopped all placer mining operations, and caused considerable damage to flumes, ditches, etc., so that it required some time after the winter season to repair and again put in working condition many of our best paying claims. Calaveras, Nevada and Sierra appear to have suffered more from the effects of the severe winter than any other of our mining counties. Yet, as far as we have learned, all damages bave heen repaired and tbe elaims are again turning out their nsual quantities of treasure. During the latter part of the season all of the placer elaims in the State were favored with an ahundant supply of water, and as a consequence that particular branch of mining was carried on with more than usnal suceess. The reduction in the price of water in Nevada and other counties greatly contrihuted to the prosperity of the mining interests, and more than usual activity has prevailed.

In quartz miniug the showing is far hetter than for the previous six months. New ledges bave been discovered in various localities throughout the State, which in some instances have proved to be extraordinarily rich. Mining generally has settled down into a regular busiuess, and parties owning even fair ledges, seem content to eoutinne upon and work them for what they are worth. This disposition was evinced by the very few persons who left this State during the Sweetwater exeitement. The miners of California learned long ago that success in their particular business never courted the "rolling stone." The quartz interest is one of vital importance to the State, and wherever we find a succcssfully operated and paying quartz lead, wo are sure to find activity and life in all other hraucbes of business. No scarcity of hands has prevailed, as the disposition of so many people in the East to rush to California, owing to the low price of fares, bas more than supplied the State with laborers, a great many of whom we may reasonably suppose will take np the business of mining either for themselves, by locating and opening up new ledges, or by hiring out to work on ledges already developed.

The importance of thoroughly opening up and developing our mines is daily beeoming more apparent, hoth to those directly interested and to those who hope to be benefited by them. The development of tbe country along the Pacific Railroad will bring to light many new items of interest to miners, and elose up the long distanee which they have heretofore been compelled to pass over to prospect and examine the eountry. The consequence will be a long line of indnstrious miners, leveling the hills, tunneling the mountains, scouring out the gulches, and throwing out the resnlt of their labor to enrich tho whole country, thus preparing the way, as they always do, for the farmer, the meehanic, and the artisan. In view of these facts, thero is no douht hut that California, being the eenter of mining interest, and San Franeisco the great western terminus, they will receive the greatest henefit arising from such a state of affairs.

Fortunate.—Only one vessel of the great fleet of over 200 sail which left this port during the year 1867, has failed to arrive at their several ports of destination. Tho missing one is the Ellen Sears, which has now heen nearly one year out for Liverpool, and is generally given up as lost.

First Shipment.—The first shipment of sixteen flasks of quicksilver, was received in this city last week from the newly opened Phœnix mine, in Pope Valley, Napa eounty. There is said to he ore enough out to supply the works for three months. This, we believe, is the first shipment of quicksilver from any of the Napa eounty mines.

Mechanical.

The Durability of Materials.

A very interesting paper was read by Mr. Edwin Clarke before a late meeting of the London Institution of Civil Engineers, on "Durability of Materials," from which we condense as follows: The list of materials used by the Engineer is small. It includes stone and timber among natural productions, and bricks and cement and the metals among artificial products. It is difficult to state, even approximately, the positive life of either of these articles. The durability of any material depends, not merely on its own inherent properties, but principally on the agencies to which it is exposed; as, for instance, the effects due to climate.

On examining all the facts and seeking some common characteristic, it is found that among all the causes of decay, humidity holds the first rank. The decaying influence of humidity was evidently dependent on other coincident circumstances. The mere pressure of water, or even of a saturated atmosphere, is not sufficient to induce rapid decay, which appears to be caused by humidity only under peculiar conditions. One of these conditions is well known by the popular title of dampness. The decay caused by dampness, as in the case of dry-rot, is effectually prevented by the presence of water or by a constant current of air, whether perfectly dry, or saturated to any degree of humidity. Dampness, therefore, is not the mere presence of moisture in the ordinary form in which it is held in solution by the atmosphere. If an hygrometer were placed in a damp situation it would simply indicate perfect saturation; no evaporation would take place, but the cotton covering of the wet bulb will be speedily covered by a peculiar mould, well known by its fungus-like odor, and in a short time it will be converted into an impalpable powder, or ash. Under similar circumstances timber, leather, paper, and all like materials undergo the same rapid decomposition; vegetable gums and oils, that are insoluble in water, and even dry hard paints and varnish, become soluble and liquid. Massive timbers are rapidly disintegrated, entirely losing their weight, though still retaining their form; and they are often totally free from apparent moisture, although at times dotted externally by drops of brilliant water. Damp spots are, moreover, peculiarly hygrometic, indicating atmospheric changes with remarkable precision, and temporary desiccation in no way disturbs this process. The peculiar odor which always accompanies this condition is one of the best tests of its existence; and the expression that a room smells damp is strictly correct. The effect is, within certain limits, intensified by increase of temperature and absence of light, and arrested by poisons destructive to vegetable life.

If this phenomenon of decay is more closely examined the process would be found to resemble, in many respects, a slow combustion. The ultimate results of combustion and decay are strikingly similar; the union with oxygen is slowly effected, and the residue is more or less diluted with foreign substances; but whether bodies are burned or decayed the remains, in the ashes, are substantially identical. Decay may thus, to a great extent, be looked upon as a decomposition, resulting from the slow chemical combination of oxygen with the matters decomposed. Now, if slow combustion is the cause of decay, and that particular state called dampness is so important an accessory, the inquiry naturally suggests itself: What connection exists between those agencies, or in what way can damp promote the absorption of oxygen?

In the case of organic substances, the presence of vegetation in the form of fungus, or mold, is an invariable characteristic of decay, and the decomposing effect of all vegetable growth is beyond question. It may be said, that the vegetable growth alluded to is the effect rather than the cause of decay. Doubtless, the spores of microscopic fungi followed the law of all other seeds in vegetating only under the peculiar conditions of soil, light, and moisture which were adapted to their growth; dampness and partial darkness, and absolute quietude, and even decay, may be essential to their existence; and, therefore, it is only under such conditions that they appear at all. But, nevertheless, when they do appear, their presence rapidly accelerates decay, and they furnish a vital medium, capable of accomplishing the observed effect—combustion, or slow union with oxygen, of the substances on which they thrive.

It is probably by some such chemical vital action that the fact can be explained, why even the hardest rocks are rapidly decomposed by the growth of lichens, or that decay should be arrested by poisons which could exert no other influence than the prevention of vegetation. It was equally remarkable that in the putrefaction, or rapid chemical decomposition of animal and vegetable substances the same profusion of the lower forms of animal, as well as vegetable, organisms characterize the phenomenon.

Whatever may be the cause of decay, moisture is an indispensable element. Dry air is incapable of decomposition. Water is a carrier of oxygen in a potent form; and it was only from water, and more especially when in the form of vapor, that the oxygen necessary for decay can be obtained. The durability of tin and iron roofs in Geneva and St. Petersburg is due to the absence of moisture; and the importance of some shelter for timber, and of thorough ventilation, wherever it is employed in a moist climate, is a necesssry corollary.

We shall next week continue our notes on that portion of the paper of Mr. Clarke, wherein he speaks of the durability of metals.

Magnet Test of Iron--the other Side.

Mr. John Farquharson, of Her Majesty's Dock-yard, Sheerness, sends a paper to *Engineering*, in which he takes a different view of the above-named subject from that advanced by Mr. Saxby, of whose conclusions we gave a summing-up two week since. It will be remembered that one of these conclusions was, that free magnetism was not confined to the surface of a body, but distributed throughout the mass. Mr. Farquharson, after refuting certain other positions by Mr. Saxby, takes up this one, and closes his paper with the following remarks upon it:

"The amount of free magnetism in iron is not directly as the mass, nor exactly as the surface, although nearly so. Barlow found that a sbell 10 in. in diameter and 1-36 in. thick, had two-thirds the magnetism of a solid sphere of that diameter; and according to Poisson's formulæ, a cylinder 10 ft. diameter and 4½ in. thick has as much free magnetism as a solid cylinder of that diameter; but it has been objected that this is only true when the continuity is regularly interrupted—a condition not to be anticipated in actual practice, and I have endeavored to test this experimentally with the following result: A cylinder 4 in. long, 2 in. diameter, and ¼ in. thick had a cylinder of iron borings roughly fused together by molten iron inserted, and slowly revolved within the hollow cylinder; the needle was perfectly steady and unaffected. The like result followed the substitution of a solid and also the half of a solid cylinder of the same description of iron for the rough cylinder of borings, the deflection in either case remaining the same. It appears, therefore, that the free magnetism acting upon a needle is due to a stratum of iron near the surface, and that considerable irregularity in the internal structure of a bar of iron 2 in. thick may exist without affecting the needle. But the practice, so far as I have seen, is to use a very light needle near the surface of the iron, and to disregard altogether the inductive influence of the needle. Now a cylinder of the thinnest iron that can be produced will deflect a needle so used 90°; a solid mass can do no more, and I can see no reason why we should not find the same varieties between this and the neutral point, where deflection is nil. We must, therefore, it appears to me, remain quite uncertain as to the condition of the internal mass at a greater distance from the needle."

PLANING-MACHINE BEDS.—An idea has been advanced that the beds of planing machines should be reversed once a year where their construction permits it. This will equalize the wear of the slides and make them truer than they would otherwise be. Carelessness will often in twelve months so injure a planing machine that nothing will cure it but being made over. If, however, the artisan be up to his business, he will so arrange his work on the bed that it will wear true at all times; if he is obliged to work any length of time on one end of the bed, he ought to divide the periods so as to run first one end of the platen over the slides and then change the other end. In this way the best results will be obtained.

Scientific Miscellany.

The Heating Power of the Moon.

Mr. Harrison recently read an interesting paper before the British Royal Astronomical Society on the capacity of the moon to receive heat from the sun and to radiate the same into space. Assuming that the lunar surface has a capacity for heat, equal to the surface of the earth, that luminary must, during its long lunar day, of nearly fifteen of our days and nights, store up on any given surface exposed to the action of the sun's rays during that length of time, a very large amount of heat.

The moon's hemisphere, visible to us, would be heated to its greatest possible extent during the third or last quarter, when the half moon thus illuminated has been subjected to the effects of solar radiation for a mean duration of about eleven days, and the remaining half, then in shade, has recently been receiving the sun's rays for a period of equal duration. Hence, if the moon radiates heat as far into space as to reach the earth, it would be at that time that our planet would be receiving its maximum of heat from its satelite.

Now the heat thus assumed to be acquired by the moon, and radiated into space, is dark heat; and as it is known that the aqueous vapor in the atmospbere has a power of absorbing dark heat, says Mr. Harrison, hence, the heat radiated by the moon, instead of conveying warmth to the earth's surface, is employed in heating the aqueous vapor in the atmosphere above the clouds. The clouds would thus be raised to a higher elevation, and of course to a greater or less extent dissipated. There would also be a sensible fall in the temperature near the earth's surface caused by such evaporation or rarification. Mr. Harrison further stated in his paper that the daily mean temperature at the Oxford, Berlin and Greenwich observatories, when reduced to tables, according to the age of the moon, show that the temperature of the air near the surface of the earth is affected by the moon in the manner above described; and that the maximum mean temperature occurs about the seventh day of the lunation, and the minimum after the full moon. These results, if as stated, would be remarkably confirmatory of Mr. Harrison's views.

We may here remark that the editor of the London *Quarterly Journal of Science*, differs from Mr. H. The editor holds that the moon *does* indeed exert a marked influence, but *not* for the reasons assigned by Mr. Harrison; but because that influence is exerted (in consequence of the varied times at which the moon reaches her meridian) at more or less favorable hours of the day—such hours as those in which the hygrometrical state of the atmosphere, which varies at different hours of the day, is most favorable for the development of such phenomena.

As respects the heating of the moon's surface, the *Quarterly* remarks that, although there is undoubtedly an enormous quantity of heat poured upon a lunar hemisphere, in the course of the long lunar day, yet we have no means of knowing how that heat is disposed of. Nearly all of it may be radiated into space, or a large portion may be consumed in effecting changes—as of solid into liquid, or of liquids into vapors—followed by a return to the original state during the equally long night which follows. The *Quarterly* thinks it hardly possible that the heat stored up in the moon during its day, becomes sensible to us, by radiation, during its following night; but rather far more probable that the heat we actually receive from the moon is from reflection, precisely as we receive her light.

IT has been found that steel rifle-barrels when fired off several times in a northerly direction, acquire magnetic properties.

COLOR IN ASTRONOMICAL OBSERVATIONS. Mr. J. Browning, F. R. A. S., has published a paper in the *Chemical News*, in which he shows quite conclusively that the difference in the apertures of different telescopes affects materially the appearance of the heavenly bodies to the observer. The color of a given star, or of the moon during an eclipse, etc., appears very different to the observer when he changes his telescope from a four to a six or seven inch aperture. From this it follows that the estimate of colors, in astronomical observations, must be coupled with the diameter of the aperture of the telescope through which the observations are made. For instance, the small star in the cluster *Perseus*, appears of an indigo-blue with an 8¾ inch, Prussian-blue with a 10¾ inch, and royal-blue with a 15¼ inch aperture. This discovery accounts for some most singular discrepancies noticed by observers, which have heretofore been attributed to color blindness.

CHEMISTRY OF WRITING.—Writing ink, with trifling variations of proportions, is a compound of sulphate of iron, extract of galls, and gum, held in mechanical union by soft water. When the fluid is applied to the paper, the following chemical action occurs: The oxygen of the atmosphere forms gallic acid with the tannin of the galls, which, in turn, unites with the iron in solution, forming a black precipitate (the per-gallate of iron), and the sulphuric acid, thus set free, enters the body of the paper, while the water passes off by evaporation. When the presence of this sulphuric acid in the tissue of the paper is in excess, the paper is gradually destroyed. It should be the aim to obtain an ink which will leave the least acid in the tissue, and still give a permanent black color.

EXPANSIBILITY OF BISMUTH.—Bismuth is a metal which, unlike other metals, expands on fusing or cooling. Mr. A. Tribe recently read a paper before the London Chemical Society "on the Freezing of Water and Bismuth," in which the author made mention of a series of experiments which proved that, although bismuth, like water, increases in bulk on freezing; yet this increase is only at the moment of congelation. This is no evidence that, as is the case with water, any expansion takes place before solidification.

SPECTRA OF METEORS.—Mr. Browning has invented an ingenious contrivance for reducing the angular velocity of meteors so as to enable him to obtain their spectra. With this device he has found it easy to obtain the spectra of balls shot from a Roman candle—the characteristic lines of baryta, strontia, etc., can be readily distinguished in their spectra.

BLOW-PIPE BEADS.—Prof. G. Rose has studied some curious phenomena exhibited by certain blow-pipe beads. He finds that the opacity which they frequently assume on cooling, results from the separation of microscopic crystals. The Professor's researches on the reaction of titanic acid appear to have some bearing on the natural formation of anatase.

THUNDER MADE VISIBLE.—Dr. Topler focalizes a ray of light on the object-glass of a telescope, which is connected with a screen in such a way that any disturbance of the air becomes visible; for instance, the intense sonorous vibrations of the atmosphere produced by electric explosions show themselves in the telescope as visible rings or circles of light.

DISCOVERY IN MAGNETISM.—M. Gerard has discovered a very curious fact. If a metallic ring made of wire, the diameter of which varies regularly, so that at one side of the ring it is very thin and at the other side relatively very thick, be suspended over an electro-maguet, it will begin to revolve. The author sees in this fact the germs of a new system of electric telegraphy, for the details of which we wait.

EFFECT OF COLD ON MINERALS AND OTHER SUBSTANCES.—Two or three weeks since we gave some account of the effects of extreme heat on minerals and metals; it may interest some of our readers to know the effects of cold upon various substances. For every mile that we leave the surface of the earth, the temperature falls five degrees. At about forty-five miles' distance from the earth, we enter, strictly speaking, into the regions of space, whose temperature is 225 degrees below zero; and here cold reigns in all its power. Some idea of this intense cold may be formed by stating that the greatest cold observed in the Arctic circle is only 40 to 60 degrees below zero; yet here many surprising facts are produced. In the chemical laboratory, the greatest cold that we can produce is about 150 degrees below zero. At this temperature carbonic acid gas becomes a solid substance like snow. If touched, it produces just the same effect on the skin as a red-hot cinder; it blisters the finger like a burn. Quicksilver freezes at 40 degrees below zero; that is, 72 degrees below the temperature at which water freezes. The solid mercury may then be treated as other metals, hammered into sheets, or made into spoons; such spoons would, however, melt in water as warm as ice. It is pretty certain that every liquid and gas we are acquainted with would become solid, if exposed to the cold of the regions of space. The gas we light our streets with would become wax; oil would be in reality as hard as a rock; pure spirit, which we have never yet solidified, would appear like a block of transparent crystal; hydrogen gas would become quite solid, and resemble metal; we should be able to turn butter in a lathe, like a piece of ivory; and the fragrant odor of the flowers would have to be hot before they would yield perfume. These are a few of the astonishing effects of cold.

IMPORTANT WORK ON MINERALOGY.—It is important to every science that its literature and progress should be frequently collected, classified and epitomized to the end that the student of such science should have always at hand a convenient record of its progress down, as near as possible, to the time at which he is engaged in his studies. In 1843, Von Haidinger, of Vienna, undertook such a task, and prepared a report on mineralogical progress of that year. His work was followed by the labors of Dr. Kenngott, who published yearly records, at brief intervals, down to 1861, since which time nothing of the kind has appeared. So much had the want of such a publication began to be felt, that in 1865 the Imperial Academy of Sciences, at Vienna, offered a prize of 1,000 florins for a record of mineralogical progress from 1861 to 1865. It has recently been announced that this labor has been undertaken and accomplished by some diligent German compiler, to whom the above-mentioned prize has been awarded, and that the desired work will soon appear. It will no doubt be promptly translated into English, and much sought after.

THE BEETLES OF UTAH.—Utah seems to be plagued with an insect of most unusual proportions, which the residents have called the "elephant beetle." From the accounts given, it appears to be quite a formidable insect. They are described as being of a shining, brownish-black color, about four inches long, with legs three inches in length. They completely cover the earth in some places, destroying everything in their path,—even small animals are sometimes covered by them, worried to death and devoured. They will soon consume the carcass of either a sheep or an ox. They eat their own dead. Unlike other beetles, they possess the faculty of uttering a loud sound, which, when uttered by countless thousands, is sufficient to frighten horses and other animals. The account before us seems to have been drawn with a pretty long bow; but we give it in substance as we find it. A gentleman of Salt Lake was about to send specimens to some scientific gentlemen at the East for examination. It might be well to send some to this city also.

California Academy of Sciences.

SPECIAL MEETING.

MONDAY EVENING, June 29, 1868.

This meeting was called for the special purpose of considering the advisability of accepting a block of land offered by the Paul Tract Homestead Association, on the condition that the Academy expend $15,000 in putting up a building or otherwise improving the same. After considerable discussion, *pro* and *con*, it was voted inexpedient to accept the proposed donation. The land was considered to be too far out of the city to be of any value to the Academy for the purposes proposed. The Secretary was instructed to address a letter of thanks to the Association thanking them for their liberal offer; but declining to accept it for the reasons stated.

H. P. Livermore, Dr. R. H. McDonald, James Deering, and J. S. Phillips, M. E., were elected members.

Mr. James Brooks was elected Secretary in place of Mr. Bradley, resigned.

DONATIONS TO CABINET.

A skull found in Arizona was presented on behalf of P. W. Randall. The skull was obtained from a grave near extensive ruins at the junction of the Salt and Gila rivers. The ruins are quadrangular in form, and are estimated to cover an area of 300 by 250 feet. When the grave was opened, the lower section of an "ogee," or earthen water jug, was found inverted over the skull. It seems to have served the purpose of preserving it, for the rest of the skeleton was so decayed as to render it almost impossible to trace it. Dr. Randall states that the skull bears no resemblance to those of any of the Indian tribes in that region, and he is of the opinion that it is several centuries old. The Indians who examined it said that it was not of their tribes, but was a "Montezuma," though their opinion in the matter is of no value.

Dr. Kellogg presented a fine specimen of the long spike, or fruit stem of the celebrated grass tree *(Xanthorrhea hastelis)*, from Hon. George Hobley, of Alameda. The aborigines of Tasmania beat off the beads of these singular trees or plants, by striking them with a pole near the top of the trunks. They then strip off the outer leaves, etc., leaving about an inch and a half of white, tender, milky portion, next the trunk. This is eaten raw, or roasted, and has a nutty, balsamic flavor. The fibers of the leaves are exceedingly strong, but have failed in rope making, as they refuse to remain twisted like flax, etc.

The meeting adjourned at ten o'clock, the President announcing that next Monday he should address the Academy on *The Chemistry of Digestion.*

CATCHING AND BREEDING FISH.—The Sacramento *Bee* complains that, in defiance of law, people are largely engaged in various parts of the State trapping and otherwise catching trout. A stop should be put to such operations during the spawning season. The *Bee* alludes at considerable length, to the efforts made in the Eastern and Northern States to keep the rivers stocked with fish, and to fill such as are not so stocked, by artificial breeding. Allusion is also made to quite an extensive attempt at artificial breeding, at a point in the foothills, just back of Oakland, with the remark that the dams, etc. connected therewith had been washed away, thus destroying the enterprise. We presume allusion is made to the enterprise of Mr. M. Disney, a well known mechanic of Oakland; but we think the *Bee* is mistaken with regard to the extent of the damage. We were informed by Mr. D. a few days since, that his fish were doing well and that he had great numbers of them. We believe this is the only attempt at fish breeding, on any considerable scale, in this State. The spawn were obtained from Lake Tahoe. There are many streams in the foothills where the water is not disturbed by miners, or filled with the poisonous sawdust from the red wood sawmills, which might be easily stocked with trout; and wherever ponds could be provided, such enterprises might be made most profitable investments. A very small amount of capital only is needed for such an undertaking.

We understand that C. Muller, optician, 205 Montgomery street, has been appointed sole agent for the Improved Eye Sharpener, patented by E. B. Foote, M. D. *

New Patents Issued to Pacific Coast Inventors.

Specially reported by the U. S. Patent Office, Washington, D. C., to DEWEY & Co., American and Foreign Patent Solicitors, and Publishers of the MINING AND SCIENTIFIC PRESS.

ISSUED FOR THE WEEK ENDING JUNE 16, 1868.

78,928.—IMPROVEMENT IN ORE ROASTING FURNACES.—David C. Collier, Samuel Cushman and Newel E. Farrell, Central City, Colorado:

1. An apparatus for roasting and chloridizing ores, composed of a cylinder A, rotating on an axis inclined to the true axis of the cylinder, within which, in the line of the rotating axis, is a partial partition for receiving and retaining the ore for a short time at each semi-rotation of the said cylinder A, in combination with a fire box J and flue K, substantially as shown and described and for the purpose set forth.

2. The wheels B, in combination with a rotating cylinder A, substantially as shown and described and for the purpose set forth.

3. The partial partition in a plane in the center of the rotation of the cylinder A, and placed at right angles to a line drawn from the manhole, H or I to said partition, or its equivalent, and in combination therewith and with any fire-box J, substantially as shown and described and for the purposes set forth.

REISSUE.

2,991.—IMPROVEMENT IN GANG PLOW.—Wm. B. Ready, Sacramento, Cal. Patented Dec. 3d, 1861.

I claim 1st. The curved beams A, when used in connection with a gang plow, or a series of plows connected together by cross-bars B, B, B, constructed and operating as and for the purposes herein set forth.

2d. The arrangement of the arms C, wheels I, and lever J, when attached to the right hand arms t, and connected to the central beam A, as and for the purposes set forth.

RECENT INVENTIONS.

GATE FOR MINING GALLERIES.—Mr. Frank Thayer, engineer of the Savage Works, says the *Territorial Enterprise*, has just added to the list of his ingenious contrivances a self-acting gate, which closes the approach to such compartments of a mining shaft as it may be fixed upon. The gate is made of wood, and strengthened with light straps of iron. At either side it fits into grooves, in which it moves up and down. Every year a number of men have been killed in our mines by pushing cars into shafts when no cage was up to receive them,—hence the necessity for the self-acting guard gate. When it is used a car cannot be pushed into the shaft. When the cage is in place ready to receive the car, the gate is always open and always shut when the cage is down. The gate is lifted up by the top of the cage-frame as it passes up, and let down and left across the track leading to the compartment as the cage descends. Workmen may be absent-minded, but the gate never forgets its place. The new gates are now in operation at the Savage works. They cost but a trifle, and should be used in all the levels as well as upon the surface. They are extremely simple and not liable to get out of order.

Mr. Thayer is the inventor of the telegraphic mining signal, elsewhere noticed in to-day's issue. His fertile brain has produced many new and important devices for simplifying and rendering more safe the dangerous and laborious occupation of the miner.

NEW SHORT-HAND SYSTEM.—It is said that a Mormon genius, named Shelton, has invented a new system of short-hand writing, which it is claimed is destined to completely revolutionize the phonographic art. The advantages claimed for the new system are, simplicity, facility of acquirement, brevity and reliability. It can be written, the inventor claims, in half the space required for the Pitman system, which is the one in universal use now among reporters.

CITY GARDENS.—A grand promenade moonlight concert will be given this (Friday) evening, at this favorite place of resort. The grounds, which are particularly attractive at this season of the year, while the flowers are in bloom—illuminated as they will be with one thousand Chinese lanterns—will present a scene of almost Oriental magnificence. There will be music by the Chris. Andres' Band of twenty-five of the best performers of this city, led by Prof. Herold, the renowned operatic leader. A concert will be given on the afternoon of July 4th, and another on Sunday, at 10 o'clock, P.M. See programme elsewhere.

Notices of Recent Patents.

78,597.—IMPROVED SHOE FOR SEPARATORS. Michael Laufenburge, Two Rocks, Cal.:

What I claim is the combination of the screw I, with the inclined sieves C and C', vibrating in alternation, substantially in the manner and for the purposes herein described.

This invention is intended to be used as a substitute for that part of a threshing machine called the shoe, and consists in placing the sieves in the frame at an incline, where they are driven to and fro on ways, by means of rods attached to a horizontal eccentric driving-shaft. Beneath the shaft is a horizontal screw, which conveys the tailings to elevators in a uniform manner. In using this device the grain that does not pass through as it falls upon the top of the sieve, is carried, by the shaking motion imparted by the eccentric-shaft, to the edge of the screens, and falls down into the oval trough, and is carried out by the rotating screw, through an opening made in the end of the trough into an elevator. By this means a device is obtained for shaking the sieves, without creating any jars on the frame of the machinery, and the whole space between the sides of the frame is occupied; thus increasing the capacity of the sieves for cleaning the grain which is not the case when a to-and-fro, combined with a slide motion, is imparted, as in ordinary shoes. The augur, or screw, conveys the tailings into elevators in a very uniform manner, and will not choke up when damp grain is being threshed, as is invariably the case when small troughs are employed. This machinery may also be set to work in a much less time than other machines are, as it requires no staking or bracing.

NEW INCORPORATIONS.—Articles of incorporation have been recently filed in the County Clerk's office in this city as follows:

AUZANZA WATER CO.—Los Angeles, June 27th. Capital stock, $100,000; 2,000 shares, $50 each. Trustees: F. L. A. Piocbe, L. L. Robinson and A. Caselli.

GOLDEN GATE M. CO.—Calaveras county, June 27th. Capital stock, $17,550; 3,510 shares, $5 each.

GLENWOOD M. & M. CO.—El Dorado county, June 30th. Capital stock, $80,000; 80 shares, $1,000 each. Trustees: A. H. Jordan, Wm. Vale and J. H. Wood.

THE following articles of incorporation have been filed in the office of the Secretary of State during the past week.

SAN JOAQUIN FARM HOMESTEAD ASSOCIATION.—June 28th. Merced and Fresno counties. Capital stock, $200,000; 500 shares, $100 each. Trustees: A. S. Gould, O. P. Fitzgerald, H. F. Williams, George Hearst, Wm. H. Bryan, C. W. Stevens, R. M. Widney, C. H. Pollard, J. W. Pearson, W. D. Garland and G. Holland.

Advertising and Subscription

Rates for the Mining and Scientific Press.

Subscriptions in Advance.—One Year, $5; Six Months, $3; Single Copies, 15 Cents; two Copies, 25 Cents. Monthly Series, $5 per annum.

Lowest Rates for Advertising:

We shall adhere to the following rates (payable in gold coin) for advertising in the MINING AND SCIENTIFIC PRESS from this date:

One column, one year	$400 00
Half column, one year	220 00
One column, six months	220 00
Half column, six months	115 00
One column, three months (13 weeks)	110 00
Half column, three months	60 00
Per line (smallest type) one year	3 00
Per line (30 lines or more) one year	2 40
Per line, three months	1 00
Per line (10 lines or more) three months	80
Per line, one month (4 weeks)	50
Per line (10 lines or more) one month	40
Per line, one week	25
Per line (10 lines or more) one week	15

Mining Notices, Legal Advertisements, Special Notices, etc., inserted at especially favorable rates.

Particular attention will be given to preparing engravings, inserting advertisements in conspicuous, novel and attractive form; we will otherwise assist advertisers in getting up their notices, when desired.

☞ All advertisements inserted in the PRESS are contained ☞ in the MONTHLY SERIES of the MINING AND SCIENTIFIC ☞ PRESS, which (by special arrangement) are placed for ☞ FREE READING in the principal hotels, steamboat and ☞ steamship saloons, depots, and public libraries in San ☞ Francisco, and the Pacific States. Many volumes are ☞ also bound, thus affording permanent advertising.

The PRESS now receives the largest and best advertising patronage of ANY WEEKLY PAPER west of the Rocky Mountains.

In regard to the value of advertising in our journal, we refer with pleasure to those who can speak from experience—*our advertisers*. Better referees, or more reliable names, cannot be found in the advertising columns of any newspaper in the world. DEWEY & CO.,

Publishers and Patent Agents.

San Francisco, July 1, 1868.

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board.

City Stocks.

Transactions in miscellaneous stocks have been limited during the present week, and for months past this class of securities has exhibited little animation. We note small sales of San Francisco Gas Company stock at $78. This company disbursed its usual monthly dividend of ½ per cent. on the 1st inst. California Steam Navigation Company realized 69¾@70¼ ₱ cent.; Spring Valley Water Works, $58@67 50. One share of State Telegraph Company stock was sold at $25. On the 1st inst., the Pacific Bank paid its usual monthly dividend of 1 per cent. on the amount paid in, the sum disbursed to the stockholders aggregating nearly $6,500. The Spring Valley Water Company pay their usual dividend nf ½ per cent. on the 10th inst., and the Merchants' Mutual Marine Insurance Company 1 per cent. on the same day. The San Francisco Savings Union have announced their dividend for the six months just closed, viz: 9½ per cent. per annum on ordinary deposits, and 11 2-5 per cent. on term deposits (free of Federal tax), payable on and after the 10th inst.

Mining Share Market.

The mining share market exhibits some improvement the present week, and generally most shares have acquired a more healthy tone as compared with last week's report. This condition of the market carries with it a much better feeling on the part of dealers, and after the national holiday season—the Board adjourning from this afternoon until Wednesday, the 8th—we may look for a briskor and improved market.

The work of mining development has since the opening of spring been steadily progressive throughout all parts of the Washoe country, new additions being constantly made to the list of productive and profit-paying mines. While no new paying claims have been opened, or deposits of importance lately made on the main Comstock lode, most of the claims situate on that range are yielding their accustomed complement of millable ore, while a number of lodges in the vicinity, but situate a considerable distance from the mother lode, have been worked with results that, having already proved remanorative, promiso to be permanent. That the usual quantity of ore of a workable grade is being raised from the Comstock group, is evident from the fact that all the mills dependent on this source for their ore supplies have been kept steadily employed and at about the same rates as formerly. From the more interior mining centres of the State, such as Reese River, Humboldt, Silver Peak, Pine Grove, Cortez, Silver Bend, and the districts lying further east, the reports are favorable for a good summer's work, and there is no doubt but the yearly hullion product of Nevada will be larger this than it was last year. The State abounds with mines rich in both gold nnd silver, but owing to its remoteness and other disadvantages, much time and money are required to thoroughly open them and erect works for the reduction of their ores.

In Idaho a season of considerable activity is looked for, work having been resumed and pushed ahead during the past few months with unusual energy both in the quartz and placer mines. Several new ditches are to be built this season, some of the smaller being already nearly finished, for conducting water to the various diggings in the Boise Basin, while a number of quartz mills will be put up in the Flint, Rocky Bar, Alturas, and other leading districts, all of which are known to contain many valuable metalliferous lodes, and in some of which very important discoveries have recently been made.

From our carefully compiled record of the sales in the San Francisco Stock and Exchange Board, we give the following interesting figures, for the first six months in 1865, 1866, 1867 and 1868:

MONTH.	1865.	1866.	1867.	1868.
January....	$1,901,598	$2,727,187	$3,664,322	$8,698,934
February...	2,358,853	3,752,292	3,303,520	9,716,596
March.....	5,528,900	5,299,084	4,034,289	11,471,430
April.....	4,329,022	4,038,086	5,833,016	12,395,304
May.....	5,965,549	3,052,102	7,851,855	10,162,396
June.....	4,711,640	2,406,341	6,864,365	9,078,063
Totals.....	$24,565,574	$21,275,102	$31,113,367	$61,513,123

The combined sales during the six months just closed are nearly double those of same period in 1867. The transactions at the open sessions are included in the above statement, and amounted to $1,634,625 in January, $2,138,763 in February, $2,676,558 in March, $2,753,474 in April, $2,112,940 in May, and $2,132,086 in June, making a total of $13,468,283 for the past six months.

IMPERIAL—was dealt in to a moderate extent, advancing from $130 to $141, receded to $135, then sold at $137, and closed at $140. Have reached nothing satisfactory as yet in the drifts from the lower level. We glean the following from the report of the President, submitted at the annual meeting, held on the 30th of June: For the current year just closed there were crushed at the Gold Hill Mill for the Alta Mine, 2,129 tons, yielding an average of $20 29 per ton; and from the Holmes Mine 8,764¼ tons, yielding an average of $20 11 per ton; in all $219,420 99. There has been crushed at the Rock Point Mill, from the Alta Mine, 30,341 tons of rock, paying an average of $22 22, amounting to $674,-133 28. The cost of hauling and working ores at the Gold Hill Mill has been $9 80 per ton, including supplies on hand, amounting to $7,789 05. The cost of hauling and reduction at the Rock Point Mill has been $9 55 per ton, including supplies on hand, $11,433 12. Cost of mining 31,491 tons from the Alta Mine, $156,286 96, or $4 96 per single ton, which includes running drifts and general repairs of hoisting works and timbering. From the Holmes Mine, 8,851 tons have cost $41,998 53, or $4 74½ per ton. Dividends have been declared and paid to the amonnt of $120,000, or $30 per share. In sinking the Imperial-Empire shaft and erecting hoisting works, there has been exponded during the last year $94,506 85, and the same is in the most complete working order. The repairs to the Rock Point mill dam have cost $21,486 74, and improvements at the Rock Point Mill, consisting of dwelling house, machine shop, and new boilers, etc., have cost $7,331 02. All debts and liabilities of the Company are paid to the close of the month of May, 1868, and no liabilities have been carried over to the month of Juno. The Superintendent reports that, estimating from the best measurements that can be obtained of the different bodies of ore now developed on the 371 and 230-feet levels of the Alta mine, there yet remains to be extracted 8,700 tons, which ore will mill from $16 to $30 per ton. In addition to the above amount of ore, we have some 1,800 tons on hand, in the dump at the mine; making a total of 10,500 tons yet to be milled. A summary of labor done in and about this mine during the past year shows the running of 320 lineal feet of drifts, 40 feet only of which was run in ore; the sinking of 120 feet of winzes, the extracting of 31,491 tons of ore, re-timbering throughout the different levels being worked in mine, repairs on shaft, and general repairs in and about the mine. Most of the ore being taken from the Holmes Mine at the present time is from small bodies found aronud old workings on the 210 and 290 feet levels. Both of these levels are still worked, producing all he ore being extracted from this mine, which ore is of low grade, ranging from $15 to $22 per ton. There yet remains to be extracted from this mine, from the 210 and 290-feet levels, about 2,000 tons of ore, sufficient to keep the Gold Hill Mill running for three months. The amount of work done in this mine during the past year has been the running of 180 feet of drifts, mining on the surface, and the extracting of 8,851 tons of ore. From the Secretary's elaborate statement for the fiscal year ending May 31, 1868, we obtain the following:

RECEIPTS.

Cash on hand May 31, 1867.....	$36,806 62
Bullion	893,554 27
Tailings, etc.....	3,553 75
Sundries.....	39,664 74
	$973,379 38

DISBURSEMENTS.

Dividend.....	120,000 00
Alta Mine.....	170,840 74
Holmes Mine.....	42,089 08
Rock Point Mill.....	29,800 81
Gold Hill Mill.....	107,507 24
Imperial-Empire Shaft.....	94,506 85
Rock Point Mill Dam.....	21,486 74
Sundries.....	83,835 40
Cash on hand May 31, 1868.....	32,982 51
	$973,379 38

From the date of incorporation of this Company, March, 1863, to the close of the present fiscal year, the receipts amounted to $1,625,069 33, of which $4,535,388 26 was for account of ores and snedries sold. The dividends disbursed aggregate $1,043,500, while only $50,000 has been collected in the shape of assessments. The available supplies on hand (May 31, 1868) were valued at $23,131 92. Subsequent to the reception of the reports shove alluded to, the following gentlemen were elected Trustees for the ensuing year: Wm. B. Bourn, John Sime, Wm. Carman, J. E. De la Montagnie, H. F. Cutter, and W. H. Sharp. This Board then chose the following officers: President, Wm. B. Bourn; Vice-President, J. E. De la Montagnie; Secretary, D. A. Jennings; Superintendent, J. D. Greentree.

SAVAGE—has been rather quiet during the period under review, selling within a range of $156 50@159 50, and at the close realizing $159. The ore product during the past four weeks has been as follows:

Week ending June 6—1,768 tons, valued at...$47 21 per ton.
Week ending June 13—1,730 tons, " ... 49 20 "
Week ending June 20—1,672 tons, " ... 44 29 "
Week ending June 27—1,611 tons, " ... 44 60 "

For the past three weeks the south mine, on the fourth station, yielded as follows: June 13th, 1,768; 20th, 1,063, and 27th, 1,134 tons of ore. In this locality of the mine the breasts continue to look well, the ore being quite abundant and of good quality. The south mine, on the fifth station, is also reported to continue in good ore, the face of the drift running in very rich ore for some ton feet, but at the close of report was not quite so good. The retimbering of shaft has been completed to the sixth station, but on account of the bad condition of the gronnd will have to sink some ten feet deeper before opening the station. The receipts of hullion to date for account of June aggregate $337,400, and it is thought will reach $360,000 for the month.

HALE & NORCROSS—has been exceedingly active since our last reference, rising to $102, declining to $90, and at the close selling at $91. In drifting south on the vein, they developed four feet of ore, and recent assays of the same show an average of over $47 per ton. The north drift is carried outside of the ledge, so as to avoid the flow of water, and they have not yet determined when they will cut into the vein.

CROWN POINT—receded from $94 to $91 50, rose to $99, and closed at $96 50. The hullion returns to date for June account foot up $85,735. On the 28th of June, the south drift on the 800 level was 173 feet from the line, showing two and a half feet of ore in the face. On the 1st inst., they had progressed 182 feet, and the face looked poorer, and on the 2d, the distance made was 186 feet, and stated to be looking better. The drift carries ore senth much further than was expected, and the indications are thought to ho very favorable as regards the 900 level. The shaft is down 108 feet from 800 level, and is soft rock; commenced to drift from 900 station, and at latest date work progressed favorably.

KENTUCK—was in moderate request, selling at $380@385 50, then at $372 50@390, and closing at $388. The receipts of hullion for June so far aggregate $69,963, and it is believed that, together with what the additional mill—put on a short time since—will produce, the yield for June will reach $95,000....GOLD HILL QUARTZ was in the market at $100@95. On a June 29th, received $3,178 69 in hullion, making $9,966 to date, and the aggregate for the month will he about $10,500.

GOULD & CURRY—is little inquired for, sales having been made at $105@114. The Bonner shaft is now about 976 feet in depth, and they are sinking at the rate of over a foot a day. This company has at present $70,000 in its treasury. They will have some revenne from the redaction of accumulated "slime," and from the ore extracted from the upper works, of which they have already over 300 tons on hand.

CHOLLAR-POTOSI—declined from $273 to $237 50, and closed at $240. At the 1,100 station, the water continues to increase as the drift goes forward—making slow progress on account of the large flow of water. No material change in the old works. The ore statement of June 29th shows that the shipments to custom mills on that day amonnted to 143¼ tons....OPHIR rose from $12 50 to $15, and closed at $16. On the 30th of June, the new shaft was timbered to a depth of 322 foot. The rock in which they are sinkiag is very hard; however, they have somewhat less water to contend with.

ALPHA—advanced from $48 50 to $52 50, and closed at $52. A new station will be opened about 230 feet from the surface. This is 90 feet above the 340 level, from which point a considerable amount of good ore has been extracted. The 340 and 440 levels are closed np from pressure of timbers, and hy running a level mid-way between them entirely new ground will he explored. The assessment of $25 per share, or $100 per foot, levied on the 29th of June hy the old Alpha Company corresponds with the one levied by the above company, and is upon stock not yet surrendered to the consolidated company, amounting to about seventy feet ....The UNITED STATES levied an assesment of $1 per share on the 29th of June.

THE MUSEUM OF NATURAL CURIOSITIES, to be seen at Woodward's Gardens, is worth the full price of admission, saying nothing of the animals, "Pictured Rocks," and other attractions.

THE SUTRO TUNNEL.—The telegraph this morning states that the *Tribune* Washington correspondent says the House Committee on Mines has unanimously reported in favor of allowing $150 per foot for the construction of the Sutro tunnel; but thinks the bill will not pass the House.

Cauvassing Agents wanted at this offico.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE.
Alpha Cons., Storey co., Nev., June 26, $25	July 29—Aug. 24	
Apollo, Lander co., Nev. June 15, $10	July 17—Aug. 8	
Adriatic, Storey co., Nev., May 20, $1	June 30—July 15	
Adella, Sierra co., May 13, $1	June 19—July 6	
Amsdor Co., dividend, $6 per share	Payable May 7	
Bacon, Storey co., Nev., div	Payable June 19	
Bear River, Nevada co., June 10, $1	July 15—Aug. 3	
Bullion, Storey co., May 25, $10	payable immediately	
Cherokee Flat B. G., Butte co., July 1, $5	Aug. 4—Aug. 24	
Crown Point, dividend, $7 50	Payable June 12	
Chiloloneta, Mexico, May 11, $5	June 18—July 6	
Chalk Mt., Nevada co., March 16, $1 50	May 12—July 6	
El Tesoro, Mex., June 18, 25c	July 20—August 16	
Empire M. & M., Nev., dividend $6	Payable May 18	
Folsom St. & F. Pt. R. R. Co., June 19, $5	July 20—Aug. 8	
Fogus, Amador co., June 3, $5	July 11—July 28	
Flora Glazier, Plumas co., May 8, 50c	June 25—July 15	
Gold Hill Tunnel Storey co.,	Annual Meeting July 13	
Gold Hill Q M & M—dividend, $7 50	Payable June 12	
Globe, Alpine co., May 25, $2	June 30—July 18	
Green, Lyon co., Nev., May 19, $1	June 24—July 9	
Golden Rule, Tuolumne co., div. 50c ₱ sh	Payable June 26	
Hope Gravel, Nevada co., June 15, $1	July 21—Aug. 12	
Imperial, Storey co., Nev., div	Payable June 18	
Kohler Bros., L. C., July 2, $25	Aug. 6—Aug. 27	
Kanaka, May 30, 40c	July 3—July 14	
Kentuck, div., $5 per share	Payable March 14	
La Victoire, Mariposa co	Meeting July 15	
Lady Bryan, Storey co., May 25, $1	July 6—July 25	
North Star, dividend, $5	Payable June 15	
Overman, Storey co., Nev	Annual Meeting July 9	
Ophir, Storey co., Nev., June 15, $1	July 20—August 10	
Osceola, May 25, 50c	Payable Immediately	
Old Colony, Lander co., Nev., May 12, $5	June 20—July 6	
Pacific Unassessable, div	Payable June 18	
Quail Hill, Calaveras co., June 26, $10	July 28—Aug. 17	
Rising Star, Idaho Ter., June 23, $50	Aug. 8—Sept 9	
Reams, Inc	Annual Meeting July 6	
Rogers, Storey co., Nev., May 14, $1	June 16—July 6	
Sierra Oenoa, Nevada, June 30, $8	July 30—Aug 21	
Santiago, Silver City, dividend	Payable June 9	
Savage, Virginia, Nev, dividend, $10	Payable June 12	
Senator, Storey co. Nev., June 9, 10c	July 15—July 31	
Silver Sprout, Inyo co	Annual Meeting July 11	
Sand Spring Salt, dividend $1	Payable June 5	
Segregated Belcher, Storey co., May 15, $6	June 20—July 10	
United States, Storey co., Nev., June 20, $1	Aug. 3—Aug 19	
Union, Storey co., Nev., June 2, $6	July 7—July 28	
Virginia & G. H. Water Co	Dividend, payable May 15	
Whitman, Lyon co., Nev., May 21, $10	June 24—July 15	
Yosemite, Lander co., Nev., June 9, 75c	July 16—Aug. 5	

*Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD.

FRIDAY EVENING, July 3, 1868.

MISCELLANEOUS STOCKS.	Bid.	Asked.
United States 7 3-10ths Bonds, June issue	$ 74	76
Legal Tender Notes	71¾	72
California State Bonds, 7s, 1857	90	95
San Francisco Bonds, 7s, 1851	102	103
San Francisco City Bonds, 6s, 1855	82½	—
San Francisco City and County Bonds, 6s, 1858	89	—
San Francisco City and Co. Sch'l B'ds, 7s, 1866	87½	—
San Francisco City and Co. Bonds, 7s, 1862	87	—
San Francisco City and Co. Bonds, 7s, 1864	84	85
San Francisco City and Co. Bonds, 7s, 1865	84	85
San Francisco City and Co. Judg. Bds. 7s, 1863	84	85½
San Francisco City and Co. Judg. Bds, 7s, 1864	83½	85
Sacramento City Bonds	22	28
Sacramento County Bonds, 6s	75	—
Marysville Bonds, 10s	75	85
Stockton City Bonds	70	85
Yuba County Bonds, 10s	75	80
Santa Clara County Bonds, 8s	70	85
Butte County Bonds, 10s, 1860	70	75
San Mateo County Bonds, 7s	—	70
California Steam Navigation Co	70¾	71
Spring Valley Water Co	67	68
State Telegraph Co	25	—
GAS COMPANIES.		
San Francisco Gas Co	—	79
Sacramento Gas Co	80	—
RAILROADS.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	68	70
Central Railroad	50	55
North Beach and Mission Railroad	66¾	67
Front Street, Mission and Ocean Railroad	11	12
BANKING INSTITUTIONS.		
California, Loan and Savings Society	—	—
Pacific Bank	97½	100
The Bank of California	157	158
INSURANCE COMPANIES.		
Firemans' Fund Insurance Co	85	86
Pacific Insurance Co	117	120
San Francisco Insurance Co	—	100
Merchants' Mutual Marine Insurance Co	470	483
California Insurance Co	1300	1400
Union Insurance Co	88	89
California Home Insurance Co	—	—
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	78	80
National Insurance Co	74	76
Builders' Insurance Co	90	—
MINING STOCKS—WASHOE DISTRICT.		
Alpha	51½	52
Baltimore American	—	—
Belcher	200	—
Bullion, G. H	29	29½
Crown Point	96	97
Confidence	35	40
Chollar-Potosi	238	240
Davey	—	7¼
Exchequer	27	28
Empire Mill and Mining Co	139	145
Gould & Curry	114	115
Gold Hill Quartz	93	97
Hale & Norcross	91	91½
Imperial	139	141
Kentuck	383	390
Lady Bryan	26	27
Ophir	15	16
Overman	80	81
Savage	158¾	159
Sierra Nevada	26	28
Yellow Jacket	12 8	1250
Golden Rule, California	10	—

San Francisco Market Rates.

Wholesale Prices.

FRIDAY, July 3, 1868.

Flour, Extra, ₱ bbl	$6 25	@$7 50
Do. Superfine	5 50	@ 6 25
Corn Meal, ₱ 100 lbs	3 00	@ 3 50
Wheat, ₱ 100 lbs	2 05	@ 2 25
Oats, ₱ 100 lbs	2 00	@ 2 25
Barley, ₱ 100 lbs	1 70	@ 1 85
Beans, ₱ 100 lbs	3 00	@ 3 50
Potatoes, ₱ 100 lbs	75	@ 1 50
Hay, ₱ ton	8 00	@12 50
Live Oak Wood, ₱ cord	9 00	@10 00
Beef, extra, dressed, ₱ lb	8	@ 10
Sheep, on foot	3 00	@ 3 50
Hogs, on foot, ₱ lb	5	@ 7
Hogs, dressed, ₱ lb	8	@ 10

GROCERIES, ETC.

Sugar, crushed, ₱ lb	14¾	@ 15
Do. China	10	@ 11¾
Coffee, Costa Rica, ₱ lb	—	@ 16
Do. Rio	—	@ 17
Tea, Japan, ₱ lb	65	@ 85
Do Green	60	@ 1 25
Hawaiian Rice, ₱ lb	—	@ 9
China Rice, ₱ lb	6	@ 6¾
Coal Oil, ₱ gallon	40	@ 45
Candles, ₱ lb	15	@ 18
Ranch Butter, ₱ lb	30	@ 35
Isthmus Butter, ₱ lb	17	@ 35
Cheese, California, ₱ lb	13	@ 18
Eggs, ₱ dozen	35	@ 37½
Lard, ₱ lb	13	@ 15
Ham and Bacon, ₱ lb	12	@ 16
Shoulders, ₱ lb	9	@ 10

Retail Prices.

Butter, California, fresh, ₱ lb	35	@ 40
do. pickled, ₱ lb	25	@ 35
do. Oregon, ₱ lb	15	@ 25
do. New York, ₱ lb	35	@ 40
Cheese, ₱ lb	20	@ 25
Honey, ₱ lb	25	@ 50
Eggs, ₱ dozen	45	@ 50
Lard, ₱ lb	15	@ 17
Hams and Bacon, ₱ lb	23	@ 25
Cranberries, ₱ gallon	85	@ 1 00
Potatoes, ₱ lb	2	@ 3
Potatoes, Sweet, ₱ lb	—	@ —
Tomatoes, ₱ lb	—	@ —
Onions, ₱ lb	—	@ 5
Apples, No. 1, ₱ lb	4	@ 5
Pears, Table, ₱ lb	5	@ 7
Plums, dried, ₱ lb	11	@ 15
Peaches, dried, ₱ lb	10	@ 11
Oranges, ₱ dozen	50	@ —
Lemons, ₱ dozen	50	@ —
Chickens, apiece	50	@ 75
Turkeys, ₱ lb	20	@ 25
Soap, Pale and lit. O	7	@ 12
Soap, Castile, ₱ lb	15	@ 16

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

FRIDAY, July 3, 1868.

IRON.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar, 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1¾@1¾c ₱ lb; Plate, 1¾c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2¾ ₱ lb.

Scotch and English Pig Iron ₱ ton	$45 —	@$47 50
White Pig, ₱ ton	47 50	@ 50 00
Refined Bar, bad assortment ₱ lb	— 02	@ — —
Refined Bar, good assortment, ₱ lb	— 02½	@ — —
Boiler, No. 1 to 4	— 03½	@ — —
Plate, No. 5 to 9	— 03½	@ — 04
Sheet, No. 10 to 13	— 03½	@ — —
Sheet, No. 14 to 20	— 04	@ — —
Sheet, No. 24 to 27	— 04	@ — —

COPPER.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb

Sheathing, ₱ lb	— 30	@ — 32
Sheathing, Yellow	— —	@ — 23
Sheathing, Old Yellow	— 11	@ — —
Bolts	— 21	@ — 22
Composition Nails	— 21	@ — 22

TIN PLATES.—Duty: 25 ₱ cent. ad valorem.

Plates, Charcoal, IX, ₱ box	12 50	@ 13 00
Plates, I C Charcoal	11 00	@ 11 50
Roofing Plates	10 50	@ 11 00
Banca Tin, Slabs, ₱ lb	— —	@ — 30

STEEL.—English Cast Steel, ₱ lb — 10 @ — 12½

QUICKSILVER.—₱ lb — 55 @ — 60

LEAD.—Pig, ₱ lb — 7½ @ — 8

Sheet	— 10	@ — —
Pipe	— 11	@ — —
Bar	— 9	@ — 9¼

ZINC—Sheets, ₱ lb — — @ — 11

BORAX.—California, ₱ lb — 20 @ — 23

San Francisco Prices of Copper Ores.

SAN FRANCISCO, July 3, 1868.

We give the following as an approximate price at which copper ores can now be sold in this city. There is no sale for ores which assay less than 12 per cent. The late reduction in price is on account of the advance of freight:

	Per ton.		Per ton.
12 per cent. ore	$16 00	22 per cent. ore	$43 56
13 " "	18 62	23 " "	48 45
14 " "	20 20	24 " "	49 33
15 " "	23 85	25 " "	52 22
16 " "	26 20	26 " "	55 11
17 " "	29 12	27 " "	58 00
18 " "	29 91	28 " "	60 80
19 " "	34 90	29 " "	63 77
20 " "	37 78	30 " "	66 66
21 " "	40 67	31 " "	59 55

These prices, we believe, will he found substantially correct, and can be realized at this date.

THE TELEGRAPH SIGNAL ARRANGEMENT, adopted some few months since at the Savage mine, and which we have already described, is said to work admirably. The Gold Hill *News* says that insulated telegraph wires now pass from the surface down into all the principal stations of the mine, and by means of a very simple telegraph instrument at each reqnisite point, a bell is rnng at the surface, signaling the engineer the same as by the former method. The old style of bell wires was very troublesome, as by the constant pulling and tnging at it in signaling, it was liable to become disordered and often in need of repairing. The galvanic battery used is kept at the surface. To keep this battery running costs a mere trifle. This style of telegraphic signals might bo adopted to very good advaatage in all our principal mines.

Important to Californians.—Many inventors have ately had their claims for Patents seriously (and in some cases fatally) delayed by the unqualification of agents who have not complied with the Oovernmentlicense and revenue laws, as well as other new and imperative regulations. These discrepancies, although arising from the inexperience of honest agents, are none the less dangerous to applicants for patents, whose safest course is to trust their business with none but active and experienced solicitors. THE MINING AND SCIENTIFIC PRESS PATENT AGENCY has strictly complied with the requisitions of the Department, and properly filed all necessary papers as Claim Agents.

Mining Summary.

THE following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County.

Silver Mountain *Chronicle*, June 20th: In the immediate vicinity of this town, claims are being worked with energy, and the prospects of having rich paying mines in the Silver Mountain district were never so good as they are at this time. We hear rumors of contemplated mining operations in other portions of the county. Preparations are being made for commencing work on claims that have not been worked for years.

Amador County.

Jackson *Ledger*, June 27th: Everything in the vicinity of the Kennedy mine is hurry and bustle. They have a good portion of the timber and lumber on hand for the new mill, and the men are busy framing it. The mill will be located immediately below the grade, convenient to the mine, so that rock can be run in a car and placed in the dump at a very trifling expense. Their new shaft is going down rapidly.

Dispatch, June 27th: The new 20-stamp mill that is being erected at the Kennedy mine, near this place, by Fleming, Langford & Co., is progressing finely, and will be ready to commence crushing rock in about six weeks.

Calaveras County.

Chronicle, June 27th: One hundred tons of rock from the Shear ledge, near the May Pole House, are now being hauled to the Water Co's mill, in Chili Gulch, to be crushed. This claim is owned by parties in San Francisco, and should the rock pay as well as the prospects made have indicated, a mill will be erected at once.

Inyo County.

Los Angeles *News*, June 23d: Several teams arrived in this city from Owens River on last Friday, bringing down as freight 3,500 lbs. of silver and lead bars, which had been extracted by the furnace process from the mines of that locality. Mr. Westerville, just from Owens River, says that the miners have a good thing in the Cerro Gordo district, as the veins are large, the ore easily extracted, and the mines paying all the way down—some of them over 100 ft. deep. There are many mines in the Cerro Gordo district, mostly worked by Mexicans, who sell the ore to the furnaces, and who require but little capital to start with, but the principal mines are the San Ignacio, Belmont, San Louis and Union, owned by energetic companies, who are developing the mines and erecting furnaces with great activity. The Kearsarge mine, Camp Independence, is putting up furnaces. It is estimated that the lead contained in the metal will pay all expenses of getting out the ore, smelting, freight, separation, etc., leaving the silver as profit.

The Independence correspondent of the Aurora *Union* of June 20th, speaking of the Silver Sprout mill, says: It is a large furnace with a roasting floor 10x12 ft., and being 13x20 ft. from out to out, built in such a manner that the Colorado Terrace or the Stetefeldt furnaces can be attached with very little additional expense. With its present capacity about eight tons of ore can be oxidized in 24 hours. By all the experiments on the Kearsarge or Silver Sprout ores, oxidation is the only thing necessary to make them pay from $175 to $250 per ton, as all the lead is oxidized and floats off with the water, and all the chlorides can then be saved by precipitation.

The miners in the Alahama district averaged $12 per day to the hand last week, and are still "averaging."

Mariposa County.

Gazette, June 26th: Bogan & Co., of the Pedro Goza mine, on Bear Creek, struck a very rich lead a few days since.

The garden formerly known as Powell and Allison's, at Mormon Bar, has been sold to Chinamen for $460.

Nevada County.

Transcript, June 24th: The English Co. has made arrangements with Phelen and Mrs. Turney, who own the bed of Shady Creek, near the Oak Tree Ranch, to drift under the bed of the creek for the purpose of getting at the rich gravel deposits on the bed rock.

Martin Jauch is prospecting for quartz at Badger Hill. He has found some excellent croppings, and he is now running a tunnel to the center of the hill, for the purpose of striking the ledge. Some excellent specimen quartz, containing a large amount of free gold has been found in that vicinity.

The Badger Hill and Cherokee Gravel Mining Co. have been busily engaged since they purchased the gravel claims at Badger Hill, in building their flumes and preparing for work. This company expect to run a bed-rock tunnel from Badger Hill to Cherokee Flat, opening it to the bottom. In a short time they will employ quite a force in washing off the surface.

The English Co. are at work washing off a good deal of ground and obtaining excellent pay. They have discharged some heavy blasts of from 200 to 300 kegs of powder this spring.

Driscoll & Co., whose claims have been idle for several years, are now cleaning out their tunnel and will commence washing next week in the same hill.

McCarty & Hunter are working their claim between Columbia Hill and Cherokee with first-rate prospects. The Ditch Co. are working the Lewis diggings in the same locality. More mining is being done in this vicinity than for many years before, and the miners are greatly encouraged by their prospects.

E. D. Dean has claimed the waters of Bloody Run, to be taken out by a ditch below the old Bloody Run ditch. He also located 200 feet from the old ditch, down the creek, for a dam and for mining purposes.

June 25th: The miners in the vicinity of Moore's Flat are washing away at a lively rate with excellent prospects. The companies will clean up about the middle of July. The Boston Co. at Woolsey's, made a clean up, after a run upon pipe clay, on last Saturday, and got $2,900. At Moore's Flat a company made a partial clean-up last week, taking out $2,200.

June 27th: We were shown a specimen yesterday from the Selena ledge, which was literally filled with flakes of pure gold.

Perrin & Co., at Forest Springs, is now and have been for the past eight months, taking out $45 rock. An incline has been sunk about 125 feet, and the company is now running for the fourth level. The ledge lies very flat and is easily worked—averaging in thickness about three feet.

Palmer & Everingham are putting up a 5-stamp custom mill on the South Fork of the South Yuba River, near Eureka. There is a large amount of prospecting in this locality and no custom mill.

At the depth of 30 feet on the Phœnix ledge, eight loads of rock have been taken out and crushed, paying $73.

Poquillau & Clark have started up their new 10-stamp quartz mill at Eureka. It is estimated that 300 tons of rock can be obtained in the vicinity.

Another mill, to be run by water power, is being built on Poor Man's Creek, by Richmond.

Grass Valley *National*, June 25th: The Shamrock ledge, owned by Harrigan, Tierney & Co., have had several very good crushings—the last one averaging about $25 per ton. Rock is now being taken out which the owners are confident will run as high as $30 per ton.

In the lower tunnel of the Gen. Grant Co., which is 60 feet in length, 90 tons of rock were taken out about two weeks ago, and crushed at the Forest Springs mill, yielding $61 per ton. In the second tunnel very good ore has also been taken out, which paid about $46 per ton, while rock from the upper tunnel has paid on an average about $40—the last crushing consisting of 200 tons. A short time ago 275 feet in the Grant sold for $5 per foot.

Grass Valley *Union*, June 23d: The New York Hill Co. are taking rock from their shaft which shows richly in free gold.

Transcript, June 30th: The shaft of the Kentucky Blue Gravel Co. has been sunk 142 feet, and a bed of gravel struck, which has the appearance of being a river channel, and is supposed to cover a strata of pipe clay, and under the clay is the strata or channel of pay dirt, which it is expected will be reached after sinking 125 ft. deeper. So soon as the channel is struck by the Kentucky Co., a large amount of propecting will be done upon the channel.

Placer County.

Dutch Flat *Enquirer*, June 27th: The miners about Iowa Hill are reported to be taking out more money than for several seasons past. The great drawback now, as it always has been, is the want of water; with a good supply of water Iowa Hill would be one of the most flourishing mining camps in the country.

We learn that the claim of Mr. O. Harkness, situated in Cañon Creek, cleaned up a short time since, after a run of seventeen days and nights, $4,700. The claim employs ten men, five on a shift, and uses 550 inches of water.

Carr, Miner & Harriman, cleaned up, in their claim at Gold Run, after a run of ten days and nights, $2,365. The company use 315 inches of water and three pipes, and work three men on each shift, and have a pressure of 150 feet.

The Colfax correspondent of the Auburn *Herald* of June 27th, says: The Rising Sun Company continue to yield good returns at each clean up.

Plumas County.

Quincy *National*, June 20th: Mining matters at Rush Creek are prosperous. Several companies are at work, piping and ground sluicing, but none have cleaned up yet. Rush Creek is one of the oldest mining camps in the county, and has been very rich.

Sierra County.

Downieville *Messenger*, June 27th: The Wehe Co. have got their tunnel into the ledge, and find the rock as rich as it was above. The prospects are excellent for a paying mine.

The American Mining Co., at Morristown, having found the pipe clay in their diggings too expensive to work by the hydraulic process, have set in drifting with several gangs of men, and are confident of making it pay much greater dividends. They will pipe no more except near the brow.

Vast excavations are being made by the hydraulic miners, this season, at Eureka, Craig's Flat, La Porte and other diggings, where large streams are playing upon the banks. This has necessitated the removal of several buildings, and it seems probable that the profits of the season's work will be double that of ordinary seasons.

The Howland Flat correspondent writes: The mines seem to be in a very prosperous condition, and justify the hopes of paying better than for some time past. The coldness of the Spring has kept the snow from melting very rapidly, and the water season for sluicing in the hydraulic claims will be better than it has been for years. Already a large quantity of dirt has been run off, but as no clean-ups have been made, there are no figures. The tunnel claims are paying very well. The Monumental, at Potosi, is turning out about 175 ounces weekly. The French Co. is paying as well, in proportion to the hands employed. The Union, Down East and other Companies are generally making good returns.

Siskiyou County.

Yreka *Union*, June 20th: The Black Bear ledge on Salmon, keeps up its reputation as one of the best ledges in the northern part of the State.

There are but few miners on Soda Creek at present, but most who are there are doing pretty well. The only hydraulic company on the creek has taken out recently some pretty good chunks, one piece weighing $40, another $17.50 and another $10, besides several others of smaller size.

Tuolumne County.

Sonora *Democrat*, June 27th: A 40-ounce lump of gold was found yesterday in the Daley claim, Main Gulch, Columbia.

Arrangements have been made for the introduction of water into Chinese Camp.

The Stanislaus Gravel Co., having completed their mill, commenced work last Thursday. They have been engaged for the last two months in building the mill, running the main tunnel into the claim and breasting out gravel. The channel has been opened at three different points by branch tunnels, connecting with the main tunnel, showing a large bed of gravel which prospects well. They intend working 40 tons per day, ample provision having been made to take out more than that quantity.

Hanson & Boyer are making preparations to hydraulic the surface of a portion of Bald Mountain. The dirt is over 16 ft. deep and contains a little gold. The dirt appears likely to pay for working, but the main object is to lay the ledge bare and expose to view the numerous small quartz veins, that run in all directions over the mountain. In years past many very rich pockets have been found at that portion of the mountain.

The same gentlemen are also going to work another hydraulic claim, in the vicinity of Sonora and Bald Mountain, where the dirt is over 30 ft. deep and pays small wages for ground sluicing.

Yuba County.

The Brown's Valley correspondent writes to the Marysville *Appeal* of June 26th, as follows: The Jefferson claim seems to be improving every day. They are crushing good quartz and are out of debt. The Pennsylvania men talk of starting all their stamps again next week, and running them on good quartz. The Rattlesnake continues to crush rich quartz. They have to pan a sufficient supply for their 10 stamps in day time, but they have reason to hope that within a few days they will be running day and night, and on richer quartz than ever before crushed in this valley.

The *Appeal* of the same date says: We were shown yesterday a telegram to W. H. Knight, from Brown's Valley, stating that the Pennsylvania Co. had struck very rich quartz in level No. 10, incline No. 1.

June 30th: The Brown's Valley correspondent writes under date of June 29th to the Marysville *Appeal* as follows: The Rattlesnake Co. cleaned up last week $1,400, and the Pennsylvania $1,700. The Pennsylvania is now setting more men to work in order to get a more regular supply of quartz for their mill from different places. They have finally reached again, in level 10, their former rich pay chimney, which, with other resources, will carry them over all their present difficulties.

Mr. Gaskin of this city, has recently erected a 4-stamp quartz mill at Scabby Hill, on the old Jackson ledge, about two miles southeast of Brown's Valley, near Long Bar. The mill is run by water power, and we are informed that it is crushing very good rock.

COLORADO.

Georgetown *Miner*, June 11th: Professor Dibbin is making active arrangements for working his mines in East Argentine district.

There is a project on foot to run a tunnel so as to strike the Flora McLain lode at a depth of 500 feet.

The shaft on the Ashley Franklin lode is now down 25 feet, and 18 inches of splendid galena, carrying a large per cent. of ruby silver is being worked out. Two men mined and raised three tons of this ore in a single day.

The Boom Ditch Co. have discovered some six or eight very promising lodes.

Central City *Herald*, June 10th: Mr. Herrick will furnish another button to-day. He has now plenty of good ore.

The Polar Star mill is kept constantly pounding away on ore from the Foote and Simmons lode, for Mr. Lindsley. The crevice matter continues to improve in quality as they continue to sink.

We saw some fine silver ore from the Do Profundus lode, Monntain House district, this morning. It was taken from a depth of about 40 feet, where the crevice is 6½ feet between walls, with a vein of pay ore 20 inches wide.

Moores and Myers are working the Canandagua lode, night and day. Of late, they have had a heavy cap-rock to sink through, but from present indications they are led to believe that they are about through it.

Barret & Co. have the water drawn out of their claims, on the Winnehago lode, and have put on a strong force of hands, who are sinking their main shaft to a greater depth.

A friend who has been visiting Idaho, informs us that Lowe & Co. are working on Illinois Bar, and have a shaft down 18 feet, and expect to strike the bed rock shortly. Also that Skinner & Co., who are working on the same bar, have their water wheel and pump in position, and have now reached a depth of ten feet. He represents Idaho, at this time, as being livelier than at any previous time since the palmy days of '62.

The cupel furnace of the Georgetown Silver Smelting Furnace was heated at two o'clock on the afternoon of June 7th, and 10 A. M. of the 8th a button of 105 pounds was ready for shipment.

We were shown on Saturday last the result of an assay made by Mr. J. Smith, from the U. S. Bank lode, selected ore. Character of ore—quartz mixed with black sulphide and small specks of ruby silver. Result—one ton—2,000 pounds, gold, a trace, silver, $3,948.10.

John Kendall has recently made the discovery of a lode, which prospects very rich. From a run of half a cord made last week, under stamps, the surface quartz yielded at the rate of $30, gold, per cord.

Miller & Co., who are working a claim on the Hunter or Bates lode, last week, had 2¼ cords of ore crushed, yielding 46 ozs. of gold, sold for $975.86, making the product at the rate of $390 currency per cord.

Denver *News*, June 17th: About 600 stamps are running in Gilpin County. Men say they never saw it so lively at Black Hawk before.

Mr. Clark, one of the owners of the Terrible lode, writes that we did his lode great injustice in saying that the highest run of its ore was $400 per ton. The last five tons run, showed a yield of $658 per ton, coin value in silver. One and one-fourth tons worked at Newark, N. J., returned $720 per ton. Ten tons now ready for smelting show an average assay of $754 per ton in coin.

The owners of the Ten-Forty silver lode, at Buckskin, have out about 100 tons of fine ore. N. Newlin, running one arastra on tailings from the Orphan Boy, took out $200 worth of gold in a week. Capt. Bates is getting some arastras ready to run. Two mills have been taken over into Granite from Buckskin, and are expected to be in operation by the first of July. In Granite they continue to find rich things.

Central City *Register*, June 11th: The

U. S. Bank lode, of Gold Hill is turning out some of the richest silver ore obtained in Colorado. Assays have been made all the way up to $3,948.10 per ton. A few days ago, the owners delivered a quantity to Prof. Hill, and after crushing and sampling, he reports it worth $340 per ton in coin. A run made by Teats gave $180 per ton.

DACOTAH.

Sweetwater Mines, June 13th: Tozer and Eddy have purchased a 6-stamp quartz mill of Jennings, Godbe, Lawrence and others, of Salt Lake, which will cost, when put up and in running order, from $12,000 to $15,000. They will have the mill and two arastras in operation within 30 days. The mill and arastras will be run by water power, and will be capable of working fifteen tons of ore per day. The mill was made at the Union Foundry, San Francisco, and although it has got but few stamps, is very perfect and complete in all its fittings. The stamps weigh 650 lbs. each. There is one Wheeler pan of the new style lately adapted to the use of gold quartz mills; also, one Belden settler, and a Hendy concentrator.

Rock Creek is paying from $8 to $12 per day to the hand, and yet the claims are hardly opened.

The James Dwyer ledge near Atlantic City, contains some of the richest rock we have seen for a long time.

There are six companies at work in Summit district. Water is scarce, not having enough this season to ground sluice, though they have a good head of 25 in. for sluice washing. From the results already obtained, it is certain that from $6 to $10 per day can be made.

IDAHO.

Owyhee *Avalanche*, June 20th: The survey of the great tunnel to be run through War Eagle Mountain is about completed. The entire length will be 8,067 feet, and its greatest depth from the surface 1,340 feet. Besides a host of others it will penetrate 15 well-defined and good paying ledges, among which are the Silver Cord, Poorman, War Eagle, Ida Elmore, Golden Chariot, and Ore Fino.

Blake & Bro's bullion assays for May, amounts to $229,558, of which $128,518 is silver, and the remainder gold. The entire amount of bullion assayed in camp for the two months ending May 31, is $378,688.23.

The Woodstock Co. are now down 40 ft. in their north shaft, below the tunnel level. At that depth the quartz is about three feet in width and looks richer than ever. Seventy-five tons of the ore are being hauled to the Upper Sinker mill.

Yesterday, steam hoisting works arrived for the Poorman and Golden Chariot mines. The Rising Star machinery has also arrived in Flint.

Two new discoveries have been made a short distance north of the Ore Fino. One of them is three ft. in width and the other four, at the surface.

The Flint correspondent writes: In the Rising Star mine work is progressing with uninterrupted vigor. Upwards of 200 tons of well-assorted rock is on the dump, which was taken out of the upper level where the ledge is still 20 ft. wide. The main shaft has been sunk to a depth of 120 ft., where a new level has been started south. At this depth the ledge has been penetrated to a width of about eight ft., showing an increased richness of ore and a remarkable purity of metal, in most of which ruby silver predominates.

Lewiston *Journal*, May 30th: At Pierce City the miners are in hopes of having a fair season's work. Water is yet plentiful, and the recent rains and snow in the mountains will aid the supply.

Same of June 6th: The Warren's correspondent writing under date of June 3d, says: I understand that the Hic Jacet mill is to be supplied with additional machinery and will soon be running. The Williams & Maxwell has been undergoing improvements and is ready to crush quartz as soon as it can be delivered at the mill. Considerable work has been done and much quartz taken out on the Winfield Scott, Wolverine and Knott ledges, but it has been impossible to get it to the mill. This difficulty is now obviated, as pack trains will transport it.

Work is soon to be commenced on the Washington, and specimens indicate it to be very rich in silver. This ledge is located very near the Williams & Maxwell mill. Several new ledges have lately been struck; one called the Loche & Long, another called Kloneas; still another struck by Tom. Rockland, very rich in gold—as yet nameless. This ledge is decomposed quartz, and from one pan of the ore one dollar of free gold was extracted.

Several arastras are in course of construction, one by Long Brothers and two by Bemis.

MONTANA.

Post, June 12th: The far north mines of Libby Creek, concerning which there was so much excitement last year, now contains about 100 men, who are working both in the creek and upon bars. Upon an average, they are doing no better, if as well, as in this portion of Montana.

We saw in the assay office of F. Bohm, on Saturday, one of the finest specimens of Montana gold that has ever existed in the country. It consisted of a gold brick weighing 136 ozs., and worth $2,750. It was noticeable on account of its great purity, the assay showing it to be .975 fine, or worth $20.25 to the ounce.

A French company, consisting of three persons, working in Norwegian Gulch, lately took out over $300, mostly in large nuggets, in one day;—$100 to the man is fair diggings.

About one week since Mr. Whitlach sold to Messrs. M. Upton and Ed. E. Walker, one-half of his 320 feet on the Discovery and adjoining claims on the Park lode.

Over 300 pounds of silver bullion, valued at over $7,000 in currency, arrived at the First National Bank last night. This was the result of 11 day's work by the St. Louis M. & M. Co'e mill, on about 70 tons of quartz from the Hope lode at Phillipsburg.

Darah, Harris & Co., at Jefferson Gulch, are doing still better upon their claim than previously reported. Their last clean up for an eight days' run with four men working during the day time and three during the night, yielded 71 ozs. of gold, or at the rate of nearly $23 per day to the man.

The quartz in the Last Chance is now three feet thick.

The Dead Beat Co. in Washington Gulch, are doing well. A party just above them is taking out from $7 to $10 per day to the hand.

One of the finest mill runs of the season, is a large and beautiful mass of retort at the assay office of Molitor Bros., which, when melted, resulted in a brick weighing 430.35 ozs., and worth $6,410.47. This lump was the result of the last run in the Union mill, during a period of six days with 12 stamps.

The Silver Bow correspondent writes: I am certainly within bounds in stating that over $30,000 per week is being taken out of the mines in our vicinity, and the amount could easily be doubled with water on grounds that our present ditches cannot command. A few days since one of the claims in the main gulch, just above Rocker City, presented its owner with a nugget of almost pure gold, weighing 21 ozs., 5 pwts.

NEVADA.

Esmeralda.

Aurora *Union*, June 20th: Gov. Blasdel has been spending several days in Aurora and vicinity, examining the mines. He has purchased the Homestake mill and mine at Bodie.

W. M. Boring, recently from Hot Springs, gives the following from that locality: The Dozier Metallurgical Co. will commence operations again with their smelting furnace in a short time. Messrs. Williams & Wickland will start their furnace again in about a week. They have discovered a ledge of almost pure feldspar, which stands fire better than any available substance yet discovered, not excepting English fire bricks. They have ascertained that this material, when taken from the ledge deep enough to get it perfectly solid, will stand the heat as long as they may wish to use it. Dozier & Co. are refitting their furnace with the same material.

Reese River.

Austin *Reveille*, June 11th: We received yesterday a box of specimens from the Mammoth district. The specimens were obtained from the ledges recently discovered in the western part of the district, about four miles from the town of Ellsworth. Some of the ores are largely gold-bearing, in others silver predominates, and in others again both of the metals occur in equal proportions. Decidedly the finest samples are from the Marble Falls ledge, and the first and second northwest extensions of that ledge. The assays of the ore, as specified on the labels, range from $300 to $3,000 per ton; and one sample of the soft, friable stuff, is marked as yielding by assay $6,000 in gold per ton. Two rich chimneys were recently opened to the depth of 10 ft. on the Marble Falls ledge, in which the white portion of the quartz was thickly studded with free gold; and some parts of the decomposed ore are said to be immensely rich. In a number of "horn tests" the yield of fine gold ranged from 25 cts. to $6; the former being the ordinary result of the ore taken from almost any place along the ledge for the distance of 600 ft., where the ore is characterized as decomposed iron pyritee.

June 16th: Yesterday a small lot of gold from the Goose Creek diggings, was brought into the city and deposited. It contained 37 ozs., worth $12.75 an oz., making the whole value $484.50. The gold was procured from a placer, but we did not learn the name of the claim.

June 22d: On Saturday evening 15 bars of bullion, averaging .700 fine, and valued at $15,410.27, were brought into the city from the mill of the Combination Co. and shipped to the office of the company in New York.

The bullion produced by the mill of the Combination Co. at Silver Bend, from the 20th of February to the 18th instant, amounted to upwards of $161,000.

We were shown to-day a certificate by Boalt & Stetefeldt of an assay of the pulp of one ton of ore from the Park ledge in the Reveille district, which gave a yield of $848.45 per ton. The ore was reduced at the Manhattan mill.

In White Pine district a Mr. Lindsey has sold 250 ft. in the Aurora claim on Treasure Hill for $2,500; and William McCauley has sold 200 ft. in the same claim and 245 ft. in an extension of the Hidden Treasure to parties in this city, consideration not given.

June 23d: We saw this afternoon at David Lundbom's assay office two small bars of bullion weighing 1,275 ozs., .970 fine, and valued at $1,601. They were the product of ore from the Hidden Treasure ledge.

Silver Bend *Reporter*, June 20th: The owners of the Silver Queen still push work upon that claim. A depth of 35 ft. has been reached upon the vertical shaft now sinking, which is evidently near the lode.

At the distance of 20 ft. in the new south level on the North El Dorado, a body of exceedingly rich sulphuret ore about two ft. thick has been encountered, several tons of which is now extracted daily.

In the south incline of the Arizona ledge at a depth of 50 ft. a stratum of rich ore about two ft. thick has been disclosed near the hanging wall. Quite a quantity of it has been brought to the surface, and it is said, will yield largely.

Good ore is coming from the Arizona and Vulcan mine on Arizona Hill.

June 24th: At Rattlesnake Cañon all is bustle and activity. Jo. Williams has a fine ledge in the edge of the valley, from which he is now taking excellent ore. The Wyoming, of Gillett & Clark, has been sunk upon for 50 ft. and is still as rich as ever. Col. Raymond is sinking a shaft upon the portion purchased of Gillett & Clark, with favorable prospects, and will erect a mill as soon as sufficient developments have been made. From all appearances Hot Creek will soon be the liveliest district in Nye county.

A day or two since, at Cahill Bros' assay office, we saw a beautiful bar of silver cast from crude bullion from Columbus district. Its value was $1,000, and it was produced from a ton and a half of ore worked in an arastra.

The 10-stamp mill at Hot Creek was started up on Monday, on ore from Morey district, a fine lot of which is on hand.

The Old Dominion mill, in Hot Creek Cañon is to be rebuilt immediately.

Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Virginia *Enterprise*, June 25th: The Alpha Cons. Co. at Gold Hill, yesterday levied an assessment of $15 per share on its capital stock. The Savage Co. have removed two heavy boilers from their old works to their new ones, where they are being set up for use.

June 27th; The total shipment of bullion during the past week from this city and Gold Hill, was 11,962 pounds, worth $287,878.75.

Day before yesterday a cave of considerable extent occurred in that portion of the old works of the Savage mine, near B street, which is being worked by Patten & Co.

June 30th: An accident to the guides in the Imperial-Empire shaft last Friday afternoon, put a stop to bailing with the hoisting tanks for several hours, and the water rose over the track in the drift to the hight of four feet.

Gold Hill *News*, June 23d: The Cole, at Virginia, find their lead of rich ore, recently struck in their valuable mine, increasing in width as it is deeper developed. They are taking out 40 or 50 tons, in order to get it milled and test its true value. Judging from assays, it ought to yield over $300 to the ton.

There was shipped from Wells, Fargo & Co's Gold Hill office this morning, 14 sacks of bullion, weighing 1,053 pounds, and of the assayed value of $31,133.98.

June 26th: There was shipped from Wells, Fargo & Co's Gold Hill office this morning, 11 sacks of bullion, weighing 900 pounds, and of the assayed value of $23,362.95.

June 27th: There was shipped from Wells, Fargo & Co's Gold Hill office this morning, seven sacks of bullion, weighing 400 pounds, and of the assayed value of $11,692.36.

OREGON.

Jacksonville *Sentinel*, June 13th: Mr. H. Helms recently showed us a gold specimen from the Timber Gulch lead worth $19.50. The specimen is a peculiar looking piece, about two inches long and three-eighths of an inch thick. It has the appearance of being drawn out like wire and in that shape embedded in quartz. When it was found the quartz fell off from the gold and left it exposed in one solid piece.

Mr. L. Zeigler, in his claim on Jackson Creek, is taking rich pay from what has heretofore been considered bed-rock, obtaining therefrom as high as an ounce of gold from one pan of dirt.

The Eugene City *Guard* says: We have been shown specimens of silver-bearing quartz, taken from a ledge just discovered 40 miles from Eugene City. The specimens were taken from the outside of the ledge, and from an assay it was estimated that it would yield, at the lowest calculation, $500 per ton.

The Chinese Empire appears to be approaching a state of dissolution. The insurrection in the central provinces, which has been in progress for so long a time, is as vigorous as ever, while the principal movers therein do not appear to have any definite object or policy in view. Province after province seems to go into revolt; and recent rumors are to the effect that disturbances of a serious magnitude are taking place on the extreme western borders of the Empire. Russia and England are evidently making preparations to take advantage of whatever may happen. The former will be prepared, when the proper time comes, to increase her already overgrown possessions by slices from the northern and western portions of the Empire, with the view of ultimately securing the shore of the Sea of Japan. England already has a corps of engineers seeking for a railroad route across the southwestern portion of China, with the view of connecting the headwaters of the Bramahpootra and Yangtse Kiang rivers with a railroad, and thereby establishing direct overland steam communication between Calcutta and Shanghai. Such a route would shorten the distance between those two cities by more than one-half, or nearly 2,000 miles; and by avoiding the dangers of the China Sea, and the necessity for doubling the peninsula of Siam, would prove a powerful competition with our overland railroad for the European travel between Western Europe and China. Should such probabilities appear to approach an early and definite accomplishment, our own government should not stand by as an idle and unconcerned spectator. The true policy for the United States is to encourage a permanent native government, so divested of its exclusiveness as to admit of free commercial relations with all the world. It is to be hoped that the present commission, of which our distinguished countryman is at the head, may lead to such a result.

A Monster Cannon has recently been presented by the Sultan of Turkey to Queen Victoria. It has been placed in the Woolwich Arsenal. Several balls accompany it made of granite and weighing 650 pounds each. They are similar to those described in Gibbon's "Rise and Fall of the Roman Empire," as being used by Mahomet II. at the siege of Adrianople in 1453.

Blight.—There are indications that the pear crop in this vicinity will suffer severely from the blight. The early crop is nearly all more or less affected; it is hoped that the later varieties may measurably escape. We presume the *savans* of the Academy of Sciences will endeavor to seek out the cause for this evil, and, if possible, suggest a remedy.

Mining and Scientific Press.

W. B. EWER,.....SENIOR EDITOR.

C. W. M. SMITH. W. B. EWER. A. T. DEWEY.

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Canvassing Agents.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866

Mr. C. T. Raney is our duly authorized agent for Sacramento County. Nov. 29, 1867.

Dr. L. G. Yates is our duly authorized traveling agent. July 6, 1867

Mr. A. H. Butler is a duly authorized traveling agent for this paper. July 15, 1867.

San Francisco:
Saturday Morning, July 4, 1868.

Notices to Correspondents.

SULPHUR.—The employment of pyrites of iron for the production of sulphuric acid in place of sulphur, is not by any means a novelty on this coast, as you seem to infer from the remarks on the subject inserted in a San Francisco daily paper. Pyrites, for the purpose alluded to, have been employed, on pressing occasions, at the Mission Chemical Works, when sulphur could not readily be procured. The reason why the mineral pyrites ceased to be employed by the conductors of the establishment named, when the scarcity of sulphur passed away, we are not able to give; but if called upon, we have no doubt the proprietors of those works can give a satisfactory reason for returning to the use of sulphur, when that mineral could be procured with facility. We are informed that Mr. Reynolds, whose works are near Islais Creek, employed pyrites, and still does so, for the manufacture of sulphuric acid. We are told by the same informant, that Mr. R., on stating that he was about to visit Washoe with the object of erecting an acid manufactory, declared that it was his intention to employ pyrites for the purpose described by you. Whether this mineral or sulphur has been, or is still employed at Washoe for this purpose, we are not able to afford any information.

P. W., Stockton.—The most popular mode of illustrating the divisibility of matter, is usually exemplified by instancing the case of gold leaf. In the ordinary process of forming gold leaf, a single grain of it is hammered out until it covers a square space measuring seven inches on each side. Every square inch of such leaf can be cut into 100 strips, and each strip into 100 cross sections, each of which is distinctly visible to the unaided eye. A single grain of gold may in this way be subdivided into $49 \times 100 \times 100 = 490{,}000$ visible pieces. If such gold leaf, however, is attached to a piece of glass, 10,000 lines can be ruled in the space of a single inch, in which way a square inch of gold only weighing 1-49 grain, may be segregated 10,000 times 10,000, or into 100,000,000 pieces; or an entire grain into 4,900,000,000 fragments, each of which can be rendered visible by means of the microscope! Notwithstanding this enormous tenuity, we know that it is practically carried much farther, for the coating of gold employed for the purpose of forming gilt wire, is much thinner than that of the silver to which it is attached; as in drawing out the wire the gold coating continues to become thinner and thinner at each drawing.

TUBAL.—The fusibility of metals possesses a most extensive range, commencing with mercury at 39° below zero or 71° below the freezing point; potassium at 136°, sodium 190°, while cast iron, according to Daniell, does not melt until a temperature equal to 2,786° is obtained. Malleable iron and manganese require the most intense heat of a smith's forge in order to fuse them. This high temperature has been variously estimated,—but never accurately fixed,—at from 3,200° to 3,500°. The highest heat of a wind furnace is required to fuse soft nails into a button, from which datum Daniell estimated that the temperature could not be below 3,300° Fah.

NOTE.—In our reference, last week, to the potash and soda contained in albite and feldspar, the relative amount was transposed. Feldspar, instead of albite, contains an excess of potash.

J. F. C., Table Rock.—Your communication has been received and will appear, with comments, next week.

The Past and Present.

Before the days of steam and the advent of the printing press forced upon mankind the importance and necessity of a more general distribution of scientific and mechanical knowledge, the experience gained by any one individual was considered his own personal property, and was transmitted from father to son as an heir-loom in the family, until it was finally lost to the world, as was too often the case, by the sudden death of its only possessor. There were secrets in every trade and profession, gained, in the first instance, by hard-earned experience—the result of too many years of toil to allow them to be freely communicated to the world. There was no such thing as a patent office in those days, by which a man could secure for his personal advantage the first fruits of his ingenuity, so as to be afterwards content to allow the world at large to be benefited by his invention or discovery. Even the walks of science were hedged around with a wall which the vulgar tread was not allowed to pass.

But mystery in mechanics has had its day; the cabalistic formulæ of the chemist have been interpreted, and knowledge is now free and readily attainable by all. The patent office has become the great storehouse of the ingenuity of nations, so that nothing in the way of invention once known is lost. The magazine and the newspaper have become vehicles for the record and transmission of information, so that all who choose may read and learn.

The value of a journal, like the MINING AND SCIENTIFIC PRESS, to the mechanic, the lover of science, and to every one who would store his mind with useful and valuable information—gathered up from the four quarters of the earth—can scarcely be estimated. Upon its ample pages is spread, from week to week, a large amount of information carefully gathered and sifted out from the great mass of facts and ideas which are constantly being cast forth upon the great ocean of truth and knowledge. The labor of collecting this information and placing it before the reader in a condensed and classified form, is no small task. By this service the seeker after knowledge is saved much dreary labor in searching over cumbrous records for the little that is new or valuable to the general reader. To the scientific student, to the beginner in mechanics, to the seeker after wisdom in any of her hidden ways—a journal like this is of inestimable value. It is a labor-saving machine, indeed, by the aid of which the hands and brains of two or three persons are able to accomplish the work of thousands.

With the present issue we commence our seventeenth volume. Each one of the series has presented a passing record of whatever was new or of especial interest that may have transpired during its allotted period; and each reader must judge for himself whether or not he has been profited by its perusal; whether it has assisted him in his attempt at discovery; whether he has gained any hints which have been valuable in his especial calling; whether he has been aided in unraveling the hard knots, so often proposed in our special columns; whether he has been informed, from time to time, of what is being done in his specialty,—and thus been able to avoid wasting his time and energies on labors already consummated; or, in short, whether or not he has been enabled to utilize, to any extent, the brains and labors of others as spread before him in the columns of the PRESS.

The past has spoken for itself; each succeeding volume forms a link in the great chain of progress,—connecting the past with the present,—and records, for the benefit of each, the accumulated knowledge attained by all. What we have done in the past must be our guarantee for the future. We shall keep RIGHT ON in our labors, doing our best to make the PRESS a journal richly worth all that it costs.

We present, to-day, some new features in style, which we trust will please our readers. It is our aim to produce a comely, as well as a useful journal—one that shall be no less creditable to the "art preservative," than faithful as a record of all art. Our new head has been designed and engraved by one of the most skillful artists in the Union; and the paper we are now using is manufactured at the Pacific Mills, Winsdsor Locks, Conn., especially for us,—an establishment noted for the uniform superiority of its products. The paper we are now using is of a better quality than is used by any other newspaper establishment on the Pacific Coast. In conclusion, dear reader, we hope we shall be as welcome to you, as the task of serving you is to us; and that our labors will continue to satisfy your thirst for scientific and useful information. As we continue our voyage, we shall endeavor to make it pleasant and profitable to both you and us.

The Interior Press and the Exhibition.

The interior press, which has already been quite liberal in its notices and advocacy of the Exhibition, would do well to more especially urge upon the mechanics and others of the interior the advantages which would accrue to them, as a body, from a full exhibition of their own skill and ingenuity. It is the desire of the managers to make the exhibition one for all the people of the Pacific Coast, and not chiefly for those in San Francisco. Let our interior cotemporaries stir up their friends a little, and note particularly such articles as are intended for exhibition from their several localities, as an encouragement for others to go and do likewise.

In this connection, it may not be out of place to record the fact that the interior press has very generally forwarded their several journals to be placed on file in the reading room of the Institute. Some fifty papers from various sections of the State have quite recently been added to the files of the reading room; but we think there are others which would find it to their advantage to follow suit. This reading room is well attended, and both the publishers who contribute their journals and the readers here will be benefited by the arrangement. The library of the Institute is now being increased by the monthly addition of from 100 to 150 volumes.

Mechanics Fair—Rules and Regulations.

The following is the substance of a portion of the rules and regulations adopted by the managers for the approaching Industrial Exhibition:

The Pavilion will be opened for the reception of goods July 27th; the Exhibition will open August 8th. All persons presenting articles must have them registered by the receiving clerk at the Pavilion. The name of every article must be distinctly attached to it. Articles for sale must be labelled accordingly. Steam power will be furnished free. Perishable articles will be received and may be removed at any time. The managers are particularly desirous that articles entered for exhibition should be presented as soon as possible after July 27th. Responsible keepers and an efficient police will preserve everything safe, which may come in before the day of opening.

All goods intended for exhibition should be forwarded to the care of W. J. Stoddart, Industrial Fair Building, San Francisco.

BANK VAULTS AND SAFETY LOCKS.—Mr. Jonathan Kittredge, manufacturer of fireproof doors, wrought iron girders, bank vaults and Monitor safes, is the agent for the celebrated Isham Key Register Bank and Safe Lock. See his advertisement.

The Forthcoming Exhibition.

Work upon the Pavilion still progresses with most commendable celerity. Over $32,000 has already been obtained to the loan fund, and subscriptions are still coming in; so that there is no lack of funds for pushing on the work. No such substantial interest has ever before been manifested by our citizens in behalf of such an exhibition. We have already noted the rapidity with which applications are being made for space; should more space than is afforded by the present floor be called for, it can readily be provided by additions, so that there need be no holding back on the part of those desiring to exhibit. Still all who intend to exhibit would do well to notify the proper committee (elsewhere designated) at the earliest moment, in order to secure a favorable position.

There will be a great number of interesting novelties presented for exhibition. Mezzara, the artist, will exhibit some works of sculpture of rare merit. The display of oil paintings will be very superior. There is a general disposition among our local artists to exhibit. Jacob Zeck is building a piano of California laurel, which will be a superb thing, and set off to good advantage the beauty of that native wood.

There will be an interesting and suggestive display of California building stone, an interest which has been altogether quite too much neglected in this State. Garratt will make a fine display of his manufactures; among the novelties he will exhibit are several brass cannon of his own manufacture.

We understand that there is a machine now on its way to this coast for making wood paper-hangings, which it is expected will arrive in season for the Exhibition. Mr. F. G. Edwards, Clay street, near Kearny, will make an imposing and unique display. Several mammoth mirrors will be exhibited, from 8x13 to 10x13 feet in size. A novel and patented process for cleaning wool and woolen goods will be exhibited. A newly invented gas generating machine, will be exhibited, by which it is claimed that gas of a superior quality can be manufactured for half what that illuminating agent is now sold for in this city. We would refer the reader to another column for some important extracts from the rules and regulations which have been established for the Exhibition, which exhibitors will do well to consult.

THE CHINESE SEEKING AFTER KNOWLEDGE.—The Chinese government has employed Dr. J. McGowan, who visited this city some two years ago, to write a book on mining and metallurgy. A Mr. Martin has also been called upon to prepare a work on natural philosophy, and a Mr. Fryer to make translations of several scientific treatises. This act on the part of the Chinese government gives evidence that the pernicious error of supposing that learning and civilization has its chief seat in the Celestial Empire, is rapidly fading out, and giving place to more correct and enlightened views. The traditional prejudice and exclusiveness of China and Japan, is fast giving way to the inexorible logic of events.

WINE GROWERS AND THE EXHIBITION.—Circulars have been issued to the wine growers throughout the State by the Managers of the forthcoming Exhibition, calling their especial attention to the advantages which may be derived from a general display of the various qualities and kinds of wine made in this State. Any wine or grape grower who may not receive such a circular within a few days after this notice reaches them, will do well to write to H. D. Dunn, Corresponding Secretary of the Mechanics' Institute, for a circular, which will explain the design of the exhibition, the object sought for, and other particulars.

Diagrams of the Comstock Ledge.

Mr. R. H. Stretch, Esq., has just completed a most elaborate set of diagrams, showing the developments and workings which have thus far progressed on the Comstock Ledge, in Nevada. These diagrams will form a part of the report of the U. S. Geological Exploring Party, which, under Clarence King, is now making an exploration of the country along the line of the Pacific Railroad, this side of the Rocky Mountains. These diagrams will be published in the official report of this survey.

The series is made up as follows: Three sheets, on a scale of 100 feet to the inch, showing the general plan of all the workings on the Comstock Lode. No. 1 includes from Overman to Alpha; No. 2, from Bullion to Best & Belcher; No. 3 includes Sides to Ophir.

One sheet of horizontal sections on North Potosi tunnel level, 331 feet below the Gould & Curry croppings, and on a level of the second station of the Savage. This section shows distinctly the expansion and contraction of the vein, with the distribution of quartz, horses, ore, seams, etc.

Three sheets of longitudinal sections, showing the depth of workings, distribution of bonanzas, etc. These sheets include the same mines as are represented in the general plans.

Three sheets of cross sections—eight in Virginia and sixteen in Gold Hill—fourteen in all.

These drawings are most admirably and faithfully executed from actual surveys, and convey to the beholder, at a glance, a most perfect and distinct view of the underground workings, distributions of ore, etc., along the chief portion of this celebrated vein. The amount of dead work which is shown in these diagrams is really surprising, and fully accounts for the heavy and numerous assessments that have been called for upon most of the claims upon this lode. No continuous vein of pay ore is seen. All the ore is confined to bunches and chimneys, which comprise but a mere moiety of the entire mass of the lode. The publication and distribution of this report will be looked for with much interest. It will form one of the most important contributions to the general mining intelligence of that region, which has ever appeared.

ST. IGNATIUS COLLEGE.—The Ninth Annual Commencement exercises of this institution, located on Market street, in this city, took place on Thursday and Friday evenings of last week. The programme for Tursday evening was as follows:—Introduction, by John Hicks. "The Vatican," (oration) by George Harrison. "Right and Wrong," (essay) by John Malone. "Song of the Zouave," (English verse) by James Ryan. "The New Crusaders," (essay) by Robert Tobin. "Temporal Power of the Pope," by Henry Harrison. "Philosophical Systems," (lecture) by George Harrison. "Shall We Erect a Monument to Our Fallen on the Field of Mentana?" (debate) by John Hicks, Chairman, Ch. S. Skidmore, Jeremiah Sullivan, Dennis Driscoll, James Ryan, Wm Griffin, James H. Campbell. "Mentana," (English poem) by Jas. H. Campbell. "Oxygen and Hydrogen," (lecture) by George Harrison. The pupils acquitted themselves in a very creditable manner, and were listened to with marked attention.

On Thursday evening about fifteen hundred persons assembled to witness the closing exercises, which were opened by a dramatic performance, which was exceedingly well rendered. This was followed by the distribution of medals and premiums, and an oration by Mr. F. J. Leonard.

This College was first opened for the reception of students in October, 1858. The design of the institution is to give a thorough classical, mathamatical and philosophical education. There is also a special commercial course connected with it, for the benefit of those who wish to qualify, in a short space of time, for the ordinary avocations of life. The chemical laboratory and philosophical apparatus is of the first order. The degree of Master of Arts was conferred upon Francis J. Leonard on Friday evening.

A NEW MONTHLY.—We are in receipt of the first number of the *Overland Monthly*, a magazine to be published monthly by A. Roman & Co., of this city. The general appearance of the magazine is about the same as that of the *Atlantic Monthly*. The type used is the old style, and 104 pages of reading matter are contained in the number. The articles, as far as we have had time to examine them, are well written, and contain much valuable information. The names of the contributors are not given, it being the intention of the publishers that they shall remain incognito. We certainly hope that the *Monthly* will be a grand success, both in a pecuniary sense to its owners and in a valuable sense to its readers.

LET THEM COME.—There has been a large accession to our population during the week ending with Sunday last. The Oregonian brought about 500 from the Atlantic States and Europe; the steamship China and sailing ship Eliza brought 1,589 from Asiatic ports; the Oriflamme 106 from Oregon, and the Idaho 29 from the Sandwich Islands. Several other vessels brought small numbers each. The arrivals over departures must have reached fully 2,000 persons.

PUB. DOCS.—We have again the pleasure of acknowledging the receipt of the following public documents from our Representative in Congress, Hon. D. R. Ashley: Patent Office, Mechanical for 1866, 3 vols.; Report of the U. S. Revenue Commissioner for 1865-6; Report of the Commissioner of Internal Revenue for 1865-6-7, 3 vols.; Message and Documents, 1866-7; Land Office Report, 1866.

FROM ELLSWORTH, NEVADA.—A private letter from a correspondent in Ellsworth says: This town has taken a new and strong lease of life by reason of the extraordinary discoverics made recently in the Marble Falls ledge. The developments on this immense lode continue to be of the most astonishing character in both gold and silver.

CONTINENTAL Life Insurance Company, 302 Montgomery street, corner of Pine.

Agents in Colorado.

CENTRAL CITY.—Messrs. Richards & Crane, of the City Book Store, Main street, will act as our agents.

GEORGETOWN.—John A. Lafferty, Postmaster, is our agent in this place.

PERSONAL.—Wanted, by friends in England, information of Andrew Jackson Van Winkle and Peter W. Van Winkle. Address this office. 1v17-3m

As if by magic comes repose,
Forget thy pain, forget thy woes.

This harmless Remedy stops all pain instantly, and leaves no stain. The tongue cannot mention any physical pain that this Paint will not remove in five minutes. Whether a frightful Burn, a griping Colic, or a simple Mosquito bite, the result proves an entire relief from distress at any spot or place where applied. It is perfectly adapted not only for all pain, but also permanently cures the worst Ulcers, Piles, Cancers or breaking out on any part of the body, and all internal complaints, by an outward application to the parts affected.

MOORE'S PAIN ANNIHILATOR, a standard remedy for Catarrh, Cold in the Head, Inflamed Eyes, etc., sold by all druggists.

G. H. MOORE, Inventor and Sole Proprietor, 642 Market street, S an Francisco, Cal. 21v16-3m

SAVE YOUR TEETH.—Drs. Jessup & Beers, over Tucker's jewelry store, are now making a specialty of filling the fangs of dead Teeth, and building up broken crowns with *pure gold*—thus restoring them to their original usefulness and beauty. They are also using Nitrous Oxide for the painless extraction of Teeth, when so desired—the only absolutely safe anæsthetic ever discovered. In breathing it, it acts as a gentle stimulant, without undue excitement,—the sensation produced being truly delightful, the effect upon the lungs healthful, and in its results positively free from all danger. Prepared and administered daily at the Dental Rooms of Messrs. JESSUP & BEERS, corner Montgomery and Sutter streets, San Francisco. 16:16tf

NORTH AMERICA

Life Insurance Company.

Usual Restrictions on Occupation and Travel

ABOLISHED!

Policies of this Company are guaranteed by the State of New York, which is true of no other Company on this Coast.

The most Responsible and Liberal Company in the World!

J. A. EATON & CO.,

Managers Pacific Branch, 302 Montgomery st.

29v14nr9p SAN FRANCISCO.

Mechanics' Fair Daily Press.



Having received permission from the Mechanics' Institute, we shall print the

Third Volume of the Fair Daily Press,

in the Grand Pavilion, during the approaching Exhibition, which opens on the 8th day of August, 1868.

Our publication of the DAILY PRESS, in the Pavilion in 1864 and 1865, met with marked success, rendering ample satisfaction to its patrons and numerous visitors attending the Fairs. We are now confident that, with improved facilities, experience, and active efforts, the present volume will be made still more attractive and useful for the increased thousands who will visit the Exhibition, and receive, gratitously, each issue

Fresh from the Press.

New and interesting features will be adopted. Each number will contain a large amount of sprightly local matter, together with much permanently valuable reading.

A limited portion of the paper will be allotted to a choice class of advertising, furnishing a favorable opportunity such as is rarely met with. Following are our uniform

Rates of Advertising:

One column during the Fair	$260 00
One-half column during the Fair	130 00
Per line (space of small type) during Fair,	2 00
Per line, 10 lines or more, during Fair...	1 75
Per line, 30 lines or more, during Fair...	1 50
Per line for single insertion	25

Particular attention will be given to preparing engravings, inserting advertisements in conspicuous, novel and attractive form; we will otherwise assist advertisers in getting up their notices, when desired.

Notices of the Press:

Following are a few of the many compliments paid the previous volumes of the DAILY FAIR PRESS:

THE SCIENTIFIC PRESS proprietors strike off and give away thousands of their little sheet, entitled THE MECHANICS' FAIR DAILY PRESS. There were great crowds all the evening about the telegraph and the presses, many of whom had their first sight at the practical working of these great motors of civilization.—*S. F. Evening Bulletin, Sept.* 7, 1864.

SCIENTIFIC PRESS.—A printing office has been established at the Mechanics' Fair, and Messrs. DEWEY & Co., the enterprising publishers of the MINING AND SCIENTIFIC PRESS, are issuing from it a handsome double-sheet daily, which is a credit to themselves, its editors, and to the Fair.—*S. F. Morning Call, Sept.* 8, 1864.

THE MECHANICS' FAIR DAILY PRESS is the title of a very neat quarto paper published at the Industrial Fair Pavilion, by DEWEY & Co., of the MINING AND SCIENTIFIC PRESS. It reflects great credit, as does the weekly, upon the enterprise and ability of the publishers. We want it regularly.—*Reese River Reveille.*

Parties who intend to advertise will do well to subscribe at once for the amount of space wanted.

DEWEY & CO.,

Publishers of the MINING AND SCIENTIFIC PRESS, Patent Agents, Book and Job Printers, corner of Clay and Sansome streets, San Francisco.

Phœnix Iron Works.



JONATHAN KITTREDGE, Proprietor,

Nos. 18 and 20 Fremont street, near Market,

MANUFACTURER OF

Fire-Proof Doors, Shutters,

Wrought Iron Girders, and all kinds of Housesmith work, Bridge and Prison Work;

BANK VAULTS AND MONITOR SAFES,

FORGING AND MACHINE WORK.

Agent for the ISHAM KEY REGISTER BANK AND SAFE LOCK, the only first class Lock in the United States. 1v17tf

Builders' Insurance Company—OFFICE IN THE BUILDING OF THE CALIFORNIA SAVINGS BANK, California street, one door from Sansome street.

☞FIRE AND MARINE INSURANCE. 10v14t9pqr

PACIFIC

Rolling Mill and Forge Co.,

SAN FRANCISCO, CAL.

Established for the Manufacture of

RAILROAD AND OTHER IRON

—AND—

Every Variety of Shafting,

Embracing ALL SIZES of

Steamboat Shafts, Cranks, Pistons and Connecting Rods, Car and Locomotive Axles and Frames

—ALSO—

HAMMERED IRON

Of every description and size.

☞Orders addressed to PACIFIC ROLLING MILL and FORGE CO., Post Office, San Francisco, Cal., will receive prompt attention.

☞The highest price paid for Scrap Iron. 9vt43m9p

Support Home Manufactures.

California Pioneer Fuse

MANUFACTURING COMPANY,

MANUFACTURERS OF

HOSE AND TAPE FUSE,

A New and Superior Article for Blasting in very wet ground, or under water.

Great difficulty has heretofore been experienced by miners, and others in the use of Fuse, which has been subjected to deterioration from exposure in dampness during transportation, or during the great length of time which has passed between its manufacture and use. In addition to great painstaking in the manufacture of the California-made Fuse, the above and many similar objections are entirely obviated, and the operator can always depend with certainty upon the burning of his fuse.

It is often the case that extra lengths are required, as exploding tunnels, etc., longer than is furnished in the imported article. Fuse of every desired length or size can be made to especial order, at the above manufactory.

Manufactory, - - - - Potrero, San Francisco.

JOS. POWNING, Sec'y. JAS. EVA, Supt.

17v16-9ptf

THE CITY GARDENS.

Corner of Twelfth and Folsom streets.

SERIES OF

GRAND INSTRUMENTAL CONCERTS.

—BY—

CHRIS. ANDRES' FULL BAND!

Moonlight Promenade Concert

—AND—

MAGNIFICENT ILLUMINATION

Friday Evening, July 3d.

—ALSO—

GRAND INSTRUMENTAL CONCERTS

On Saturday Afternoon, July 4th, and Sunday Afternoon, July 5th.

Admission, 25 cents; Children, half price.

THE GOLDEN RULE EMPORIUM,

No. 59 Second street, second door from northeast corner of Mission st.,

SAN FRANCISCO.

MEN'S FURNISHING GOODS,

TOILET ARTICLES, Etc.,

A large selection at the lowest prices possible.

GEORGE THACKRAH.

1v17-3m

DR. GEORGE W. ROGERS,

PHYSICIAN, SURGEON & ACCOUCHER,

(Recently from Mazatlan.)

410 Kearny st., bet. California and Pine,

SAN FRANCISCO. 1v17-3m

STOCK CERTIFICATES,

STOCK TRANSFER JOURNALS,

STOCK LEDGERS,

ASSESSMENT RECEIPTS,

And all other Blanks, Blank Books, etc., required by Mining and other Corporations, kept on hand or printed to order on short notice, at moderate prices, at the office of the *Mining and Scientific Press.*

Machinists and Foundries.

PALMER, KNOX & CO.,

Golden State Iron Works,

Nos. 19, 21, 23 and 25 First Street,
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF

MACHINERY,

STEAM ENGINES AND QUARTZ MILLS

OUNBAR'S IMPROVED

Self-Adjusting Piston Packing,

Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

WHEELER & RANDALL'S

NEW GRINDER AND AMALGAMATOR

HEPBURN & PETERSON'S

AMALGAMATOR AND SEPARATOR,

Knox's Amalgamators,

WITH PALMER'S PATENT STEAM GUEST,

Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continual working.

Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10qy-tf

WILLAMETTE IRON WORKS,

PORTLAND, OREGON.

Steam Engines, Boilers,

SAW AND GRIST MILLS,

MINING MACHINERY, WROUGHT IRON SHUTTER WORK, AND BLACKSMITHING IN GENERAL.

Corner North-Front and E streets,

13v13-1y One block north of Couch's Wharf.

UNION IRON WORKS,

Sacramento.

WILLIAMS, ROOT & NEILSON,

MANUFACTURERS OF

CROSS' PATENT BOILER FEEDER,

STEAM ENGINES, BOILERS,

And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old Cylinders, manufactured to order.

Front Street, between N and O streets,

14v11 SACRAMENTO CITY

GLOBE

Foundry and Machine Shop,

STOCKTON, CAL.

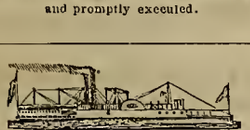
KEEP, BLAKE & CO.,

MANUFACTURERS OF

Quartz, Saw and Grist Mill Irons, Steam Engines, Horse Powers,

Mining and Irrigating Pumps, Car Wheels, Derrick Irons, House Fronts, Iron Fencing, Balcony Railings, etc., at San Francisco prices. Orders solicited and promptly executed.

13v13-1y



JAMES MACKEN,

COPPERSMITH,

No. 226 Fremont st., bet. Howard & Folsom.

All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to.

13v11

GEORGE T. PRACY,

MACHINE WORKS,

Nos 109 and 111 Mission street, between Main and Spear, SAN FRANCISCO.

STEAM ENGINE, FLOUR AND SAW MILL

And Quartz Machinery, Printing Presses,

—AND—

MACHINERY OF EVERY DESCRIPTION MADE AND REPAIRED.

☞Special attention paid to Repairing.☜ qy-3

CITY IRON WORKS COMPANY.

CLERC & CO.,

IRON FOUNDERS,

Steam Engine Builders, and Makers of all kinds of Machinery,

6v16qr No. 28 Fremont street, San Francisco.

To Foundrymen and Blacksmiths.

LUMP LEHIGH AND CUMBERLAND COAL, IN ANY quantity, sacked and shipped to any part of the country, by JAS. R. DOYLE, Coal Dealer,
413 and 415 Pacific street,
24v15-3m bet. Sansome and Montgomery, San Francisco.

Miners' Foundry

—AND—

MACHINE WORKS

Nos. 245 to 255 First Street,

San Francisco.

HOWLAND, ANGELL & CO.,

PROPRIETORS,

Manufacturers of Machinery for

QUARTZ MILLS. FLOUR MILLS,
SAW MILLS, SUGAR MILLS,
POWDER MILLS, PAPER MILLS

Steam Engines of all Kinds.
Amalgamators of all Kinds.

MINING PUMPS, HOISTING WORKS
OIL WELL TOOLS, ROCK BREAKERS,

—AND—

Machinery and Castings of all kinds, either of Iron or Brass.

Boilers and Sheet Iron Work in all its Branches.

Shoes and Dies of White Iron, manufactured for and imported by us expressly for this purpose, and will last 25 per cent. longer than any other made on this coast.

Russia Iron Screens, of any degree of fineness. We are the only manufacturers on this coast of the "Hicks Engine," the most compact, simple in construction, and durable, of any Engine in use.

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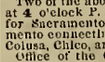
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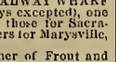
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FURNACE IMPROVEMENTS.—A series of experiments, says the London Quarterly *Journal of Science*, has recently been carried out in London, in proving the utility of a new form of furnace, invented by Mr. T. J. Lehigh. This furnace is applicable for puddling, steel-making or other purposes for which an intense heat is required, and is adapted for burning fine or refuse coal, "which is instantaneously converted into gas as it is fed in," (?) a perfect combustion and intense heat being obtained. The crop ends of steel rails, placed in the furnace were reduced to a perfectly fluid state in twenty-five minutes. Wrought iron was also readily melted. Neither the peculiar construction of the furnace, nor the manner of feeding the fuel, is given. The coal is probably used in a pulverized condition; "the instantaneous conversion of the coal into gas," is hardly presumable.

Professor P. Turner, a gentleman of much experience in such matters, according to the authority already quoted, has written very favorably of a modification in the blast-furnace recently introduced by a Prussian iron manager. In this invention the walls of the hearth are carried to the bottom on all sides, so that there is no opening in the front—no tymp and no dam. The scoria is discharged through a scoria-outlet about six inches below the twyers. The advantages claimed are that vacillatious of the slag on the hearth is prevented; as there is no forebearth, there is no repairs of it—which is considered equal to a saving of at least twenty days in each year; there are no interruptions, and the furnace does not cool; the number of charges can be greater, and the number of hands lessened, while the work is much easier for all employed.

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SUGGESTIVE FACTS.—In Ross Browne's report for 1867, the gold production of California is estimated at $25,000,000—less than a fourth of which is credited to placer mining. The wheat crop of 1868 is roughly estimated at 25,000,000 of bushels, which at an average of $1.67 per hundred, would give $25,000,000—as much as the whole gold production of the preceding year. Twelve years ago our gold mines yielded about $40,000,000 a year; the wheat lands hardly anything. The mines are still declining, but the increase in wheat production is greater than the decline in gold. The mines and wheat fields together now yield $50,000,000 and over. There are not over 2,500,000 acres of land now under cultivation of all kinds, in the State; yet the total amount of land susceptible of cultivation is not less than 50,000,000 of acres! When the State shall have reached its greatest capability in agricultural industry, our wheat crop will probably aggregate 200,000,000 of bushels, worth in average years four times as much as the highest figures ever produced in any year from the gold mines. The most encouraging feature in the change of industry from mining to agriculture is, that what we realize from the latter nearly all remains in the State and goes toward the improvement of farms and the building up of cities, towns and manufactures, while the products of the mines were nearly all absorbed by foreign markets to make up the balance of trade against us.

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San Francisco March 6, 1865 11v10-tf

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Manufacturer of all kinds of FIRE-PROOF

Doors and Window-Blinds or Shutters,

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Wrought Iron Girders and Beams,

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HAT MANUFACTURER

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Hats and Caps

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Our wholesale House, 628 Commercial street, extending through to 637 Clay street, San Francisco, contains always a most choice, and the largest, assortment in this State. Every Steamer brings the latest issued novelties from Europe and New York, which can be found at all the above stores, at moderate prices. 23v16-3m

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BY A PROCESS ENTIRELY NEW, THE PROPRIETOR is now manufacturing in quantity sufficient to supply the demands of the trade, A NEW AND SUPERIOR MATERIAL FROM THE FIBER OF THE COCOANUT—the best substitute for curled hair hitherto discovered—for mattresses, chairs, lounges, and all upholstering purposes. The following are some of the advantages which it possesses over all other materials used for the above named purpose:

1st. It is cheaper, all things considered, than most articles in use.

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Lastly. It does not pack; is free from dust; much lighter, and in general obviates all the objections to pulu, prepared shavings, soap root, and other inferior substitutes for feathers and hair. 22v16tm

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Blasting and Mining Powder $2 50 per keg.

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Attorney and Counsellor at Law,

Court Block, 636 Clay Street,

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2v15-1qy

J. M. HAVEN,

ATTORNEY AND COUNSELOR AT LAW,

Room 25 Montgomery Block,

27v16 SAN FRANCISCO.

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On the **6th, 14th, 22d** and **30th** of every month.

Steamer leaving San Francisco on the 6th touches at Manzanillo. All touch at Acapulco.

Departure of the 14th is expected to connect with the French Trans-Atlantic Co.'s steamer for St. Nazaire, and English steamer for South America. Through tickets can be obtained.

Departure of 14th is expected to connect with English steamer for Southampton and South America, and Australia, and P. R. R. Co's steamer for Central America. Through tickets can be obtained.

STEAMERS FOR JULY, 1868.

The following Steamships will be dispatched on dates as given below:

July 6th—MONTANA.....Capt. J. M. Cavarly, Connecting with HENRY CHAUNCEY, Capt. Oray.

July 14th—CONSTITUTION.....Capt. C. C. Comstock, Connecting with OCEAN QUEEN, Capt. King.

July 22d—GOLDEN CITY..... Capt. Wm. F. Lapidge, Connecting with RISING STAR, Capt. Conner.

July 30th—GOLDEN AGE.....Capt. E. S. Farnsworth, Connecting with ARIZONA, Capt. Maury.

Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult.

An experienced Surgeon on board. Medicine and attendance free.

These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.

Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—If desired an amount of £10 to £20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England.

The Steamship NEW YORK, Capt. C. M. Fauntleroy, will be dispatched on FRIDAY, July 3d, at 12 o'clock, noon, from wharf, corner of First and Brannan streets, for YOKOHAMA, to connect with the GREAT REPUBLIC for HONGKONG, and COSTA RICA for SHANGHAI.

For Merchandise and Freight for New York and way ports, apply to Messrs. WELLS, FARGO & CO.

For passage and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets.

OLIVER ELDRIDGE, Agent.

COTTON IN CALIFORNIA.—The cultivation of cotton in this State has been attended with such indifferent success, that the probability is but little further effort will be made to continue the business here. Our local supply will probably be eventually obtained from the Sandwich Islands. The island of Nuhau, of that group, is said to be peculiarly adapted to such cultivation, as experiments the past seasou have fully shown.

Of the immigrants now arriving from the East a much larger portion than usual are Americans, mostly from the Southern and Western States, most of whom are laborers. They readily find employmeut either at farming or lumbering. The Labor Exchange is making itself especially usefnl in their behalf.

New Mining Advertisements.

Adriatic Gold and Silver Mining Company, Flowery District, Storey County, Nevada.

NOTICE.—There are delinquent, upan the following described stock, on account of assessment levied on the twenti-th day of May, 1868, the several amounts set apposite the names of the respective shareholders as follows:

Names.	No. Certificates.	No. Shares.	Amount.
M J Newmark	507	30	$30 00
Daniel Meyer	98	50	50 00
Daniel Meyer	351	35	35 00
N Lauing	114	10	10 00
Thomas S Russell	199	10	10 00
Estate of Henry Dreschfeld	392	176	176 00
Estate of Henry Dreschfeld	324	25	25 00
Estate of Henry Dreschfeld	393	5	5 00
Estate of Henry Dreschfeld	427	61	61 00
Estate of Henry Dreschfeld	466	50	50 00
Edward Cohn	459	25	25 00
J L Schroeder	423	75	75 00
L Rosenbaum	503	222	222 00
H Schmidt	492	5	5 00
H Schmidt	494	5	5 00
H Schmidt	494	10	10 00
J J Robbins	489	10	10 00
J J Robbins	490	10	10 00
J J Robbins	506	5	5 00
J S Burgess	512	115	115 00
J S Burgess	513	50	50 00
M Waterman	509	30	30 00
Chas Hirschfeld	521	50	50 00
R W Kind	440	6	5 00
R W Kind	441	10	10 00
R W Kind	479	10	10 00
Jas Adelsdorfer	224	15	15 00
B Gattel	352	10	10 00
B Gattel	359	10	10 00
B Gattel	360	10	10 00
B Gatte	538	10	10 00

And in accordance with law, and an order of the Board of Trustees, made on the twentieth day of May, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on the sixteenth day of July, 1868, at the hour of 11 o'clock A. M. of said day, for cash, in U. S. gold coin, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

PAUL NEUMANN, Secretary.

Office, No. 411 California street. jy4

Globe Gold and Silver Mining Company.—Location of Works: Monitor District, Alpine County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-fifth day of May, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. shares.	Amount.
George Hogan	47	5	$10 00
J W Chatterfield	49	5	10 00
H A Bartholomew	19	100	200 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-fifth day of May, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, on the eighteenth day of July, 1868, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

V. B. POST, Secretary.

Office, Lombard street, one door from Dupont, south side, San Francisco. jy4

Siempre Viva Gold and Silver Mining Company, District of Zaragoza, Sinaloa, Mexico.

Notice is hereby given, that at a meetiug of the Board of Trustees of said Company, held on the fifteenth day of June, 1868, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, 318 California street, up stairs, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirty first (31st) day of July, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the seventeenth day of August, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary

Office, 318 California street, Up-stairs, San Francisco, California jy4

Whitman Gold and Silver Mining Company.

Location of Works: Indian Springs District, Lyon County, Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-first day of May, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. shares	Amount.
Cronise, Wm H V	101	5	$ 50 00
Cronise, Wm H V	245	30	300 00
Cronise, Wm H V	259	15	150 00
Roberts, Geo D	268	15	150 00
Roberts, Geo D	269	20	200 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-first day of May, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, on the fifteenth day of July, 1868, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. W. COLBURN, Secretary.

Office 402 Montgomery street, (Room No. 10, 2d floor) San Francisco, Cal. jy4

Mining Notices—Continued.

Apollo Gold and Silver Mining Company, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifteenth day of June, 1868, an assessment of ten dollars per share was levied upon the capital stock of said Company, payable immediately, in United States Currency, to the Secretary, 228 Clay street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the seventeenth day of July, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the third day of August, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

D. H. CROWE, Secretary.

Office, No. 228 Clay street San Francisco. je20

Adelia Gold Mining Company, Rock Creek, Sierra County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the thirteenth day of May, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Adelia Baldwin	bal 5	795	$795 00
D O Stevens	24	12	12 00
D O Stevens	25	408	408 00
G W Walker	bal 30	275	275 00
J H Reimers	bal 26	75	75 00

And in accordance with law, and an order of the Board of Trustees, made on the thirteenth day of May, 1868, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the salerooms of Messrs. Olney & Co, 426 Montgomery street, San Francisco, on the sixth day of July, 1868, at the hour of 12 o'clock M. af said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. RUFFINGTON, Secretary.

Office, Room 37 New Merchauts' Exchange, California street, San Francisco. je29

Bear River Mining Company, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the tenth day of June, 1868, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the fifteenth day of July, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, tha third (3d) day of August, 1868, to pay the delinquent assessmant, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINOTON, Secretary.

Office, Room 37 New Merchauts' Exchange, California street, San Francisco. je13

Chipionena Mining Company—District of Ures, Sonora, Mexico.

NOTICE.—Thera are delinquent, upon the following described stock, on account of assessment levied on the eleventh (11th) day of May, 1868, the several amounts set opposite the names of the respectiva shareholders as follows:

Names.	No. Carticata.	No. Shares.	Amount.
Buzzolini, D	71	30	$150 00
Buzzolini, D	74	4	20 00
Chevesich, E	72	1	5 00
Figgs, E C	65	10	50 00
Ghirardelli, D	23	29	145 00
Ghirardelli, D	72	90	450 00
Ghirardelli, D	75	24	100 00
Moshelmer, Jos	56	25	125 00
Moshelmer, Jos	57	26	130 00
Smi h, R	86	5	25 00
Quinn, Thos	85	5	25 00
Vincent, J	59	9	45 00
Vincent, J	60	10	50 00

And in accordance with law, and an order of tha Board of Trustees, made on the eleventh (11th) day of May, 1868, so many shares of each parcel of said stock as may be necessary, will bo sold at public auction, by John Middleton & Son, at their salesroom, No. 310 Montgomery street, San Francisco, Cal., on Monday, the sixth day of July, 1868, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertsing and expenses of salo.

JOHN F. LOHSE, Secretary.

Office, 318 California street, up-stairs, San Francisco. je20

Eclipse Gold and Silver Mining Company, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifteenth (15th) day of June, 1868, an assessment of ten dollars per share was levied upon the capital stock of said Company, payable immediately, in United States Curreney, to the Secretary, 228 Clay street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the seventeenth (17th) day of July, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall he made before, will be sold on Monday, the third day of August 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. A. DRINKHOUSE, Secretary.

Office, 228 Clay street. je20

Fogus Mill and Mining Company.—Location of Works: Amador County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the third day of June 1868, an assessment of five dollars ($5) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, No. 318 Front street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eleventh day of July, 1868, shall be deemed delinquent, and will be duly advartised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twenty-eighth day of July, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN J. SCOTCHLER, Secretary.

Office, No. 318 Front street, San Francisco, Cal. je6

Folsom Street and Fort Point Railroad and Tunnel Company, San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of June, 1868, an assessment of five dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to Caleb T. Fay, at the office of the Company, Room No. 16 Stevenson Block, on the southwest corner of Montgomery and California streets, San Francisco, Cal.

Any shares of stock upon which said assessment shall remain unpaid on the twentieth day of July, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the eighth day of August, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOS. M. WOOD, Secretary.

Office, Room No. 16 southwest corner of Montgomery and California streets. ju27

The Flora Glazier Quartz Mining Company Location of Works: Plumas County, California.

NOTICE.—There are delinquent upan the following described stock, on account of assessment levied an the eighth day of May, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Augustine, M	9	200	$100 00
Arnold, D E	181, 182	50	25 00
Block, A	5	750	375 00
Brown, Wm	38, 39	25	12 50
Burrell & Knapp	19	100	50 00
Blood, James A	3	1200	600 00
Bampton, Edward	21, 33, 152, 153	225	112 50
Blough, Wm	46	50	25 00
Bradley, J C	110	25	12 50
Bendel, Herman	36, 1 4	15	7 50
Bourne, Geo J	40	50	25 00
Crosley, Jas W	18	20	10 00
Chambers, R B	41, 45	100	50 01
Cate, D R	81, 82	150	75 00
Cohn, D	127	15	7 50
Drahman, Wm F	163	15	7 50
Doane, Michael	158	12	6 00
Fowler, C B	17	100	50 00
Fernald, J S	72	50	25 00
Glazier, Isaac	143, 144, 145, 146	250	125 00
Glazier, Simon W	2	1000	500 00
Gilman, Wm A	111	50	25 00
Grindley, Geo W	115	60	30 00
Hochstadter & Bro	21	500	250 00
Hartmyer, —	70	500	250 00
Holzaur, Herman	112	5	2 50
Haviland, D B	27, 28	20	10 00
Hochstadter, S & A	129, 130, 131 132, 133, 134, 135	100	50 00
Klein, W	104	41	20 00
Lute, Nicholas	63	200	100 00
Lorranze, Geo W	136	50	25 00
Loranze, John E	137	50	25 00
Marcuse, M	121, 122, 123, 124 125, 126, 128	365	182 50
McPherson, A W	157	500	250 00
North, George	41	50	25 00
Nason, Hermann T	103	10	5 00
Ogden, A L	81	500	250 00
Ogden, Frederick	80	50	25 00
Peters, Julius	78, 79	75	37 50
Palmer, S L	22	250	125 00
Palmer, W D	32	25	12 50
Popert, N D	109	25	12 50
Pollak, John	23, 35, 154	25	12 50
Peters, George	77	25	12 50
Reid, John Henry	102	50	25 00
Rudman, John	148, 168, 169, 170 171, 172, 173, 174, 175, 176, 177, 178	550	275 00
Robinson, Chas F	149	25	12 50
Ritchie, John A	not issued	250	125 00
Springer, Mrs S C	64	50	25 00
Springer, E D	69	50	25 00
Shidell, C W	71	100	50 00
Smith, W D	89	100	50 00
Semper Sam'l P	133, 139, 140, 141	20	10 00
Smith, Charles	159, 160	38	19 00
Shwartz, A	166	50	25 00
Thompson, John W	42, 43	100	50 00
Thompson, John W	not issued	150	75 00
Taylor, Job T	51, 52, 53, 54, 55 56, 57, 58, 184	150	75 00
Thorne, I N	14	50	25 00
Wadhams, Wm	20	25	12 50
Weil, Henry	73	50	25 00
Whitney, E W	26	20	10 00
Williams, Chas H	150	50	25 00
Zech, Jacob	113	5	2 50

And in accordance with law, and an order of the Board of Trustees, made on the eighth day of May, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by John Middleton & Son, No. 310 Montgomery street, San Francisco, California, on Wednesday, the fifteenth day of July, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

I. N. THORNE, Secr tary.

Office, No. 17 Montgomery Block, San Francisco, California. ju27

Green Gold and Silver Mining Company.—Location of Works: Gold Hill District, Storey County, Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment (No. 12) levied on the the nineteanth day of May, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
W T Price	8	10	$10 00
Wm H Ladd	34	10	10 00
Wm H Ladd	553	20	20 00
H Hillard	408	10	10 00
J H Bloomenberg	404	5	5 00
L S Clark	83	2½	2 50
Sam'l Crimm	271	5	5 00
J F Fitch	476	10	10 00
J R Fl ch	521	70	70 00
J R Fitch	547	10	10 00
L B Adsli	449	20	20 00
L B Adsli	531	10	10 00
L B Adsli	555	10	10 00
Henry Dreschfeld	455	25	25 00
R S Barnes	209	15	15 00
J P Rogers	213	10	10 00
J P Rogers	370	5	5 00
George Melio	222	2½	2 50
Miss Lizzie Donohoe	396	12	12 00
George Kaiser	392	11	10 00
J O'Neil	389	20	20 00
Edward Glasson	502	2	2 00
W H Hunter	381	20	20 00
W H Hunter	386	10	10 00
W H Hunter	451	20	20 00
W H Hunter	499	20	20 00
A J Garoblil	327	21	20 00
A J Gambill	358	25	25 00
E Cazalis	414	20	20 00
J Ferguson		21	23 00
J Tucker		19	19 00
D Armstrong	565	10	10 00
Kate Mullen	435	20	20 00
Mary Mullen	436	10	10 00
W J Stanford	472	50	50 00
W J Stanford	531	20	20 00
W J Stanford	540	10	10 00
W J Stanford	541	10	10 00
W J Stanford	542	10	10 00
W J Stanford	543	10	10 00
W J Stanford	544	10	10 00
J L Daniels	479	10	10 00
J L Daniels	481	10	10 00
I S Johnston	506	50	50 00
I S Johnston	520	50	50 00
John Gardner	58	25	25 00
J L Janes	539	10	10 00
J L Janes	545	10	10 00
S T King	518	16	16 00
Joseph Emeric	523	60	60 00
C Weaver	526	30	30 00
H L Bawley	530	10	10 00
M McDonald	546	10	10 00
Wm Ready	552	3	3 00
Wm Ready	559	20	20 00
Wm Ready	560	10	10 00

And in accordance with law, and an order of the Board of Trustees, made on the nineteenth day of May, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Maurice Dore & Co., No. 327 Montgomery street, San Francisco, on Thursday, the ninth day of July, 1868, at the hour of 12 o'clock, M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. W. JOHNSON, Secretary.

Office, No. 606 Battery street, San Francisco. ju27

POSTMASTERS are requested to punctually inform us of the removal of subscribers of the PRESS from their locality, or of neglect to take the paper out of the office from any cause—when the subscriber omits that duty himself. It is not our intention to send this journal to any party longer than it is desired. If we inadvertently do so, subscribers and others will please inform us.

Gold Hill Tunneling Gold and Silver Mining Company.—Location: Gold Hill Mining District, County of Storey, State of Nevada.

NOTICE.—The Fifth Annual Meeting of the stockholders of the above named Company, will be held at their office, 414 California street, San Francisco, Cal, on SATURDAY, the eighteenth day of July, 1868, at 10 o'clock A. M., for the purpose af electing Trustees to serve for the ensuing year, and such other business as may properly come before it.

R. WBGENER, Secretary.

San Francisco, June 13, 1868. je13

Great Central Mining Company.—Location of Works: Yuma County, Arizona Territory.

NAMICE.—There are delinquent upon the follawing described stock, on account af assessment levied on the fourteenth day of May, 1863, the several amounts set opposite tho names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Burke, M J	70	30	$30 00
Brokaw, Jas	169	20	20 00
Brokaw, Jas	185	75	75 00
Clark, H C	118	50	50 00
Clark, H C	119	50	50 00
Clark, Mrs Sarah	13	100	100 00
Clark, Mrs Sarah	14	50	50 00
Clark, Mrs Sarah	bal 15	20	20 00
Cleveland, Wm H	313	25	25 00
Cummings, Mrs Ann G	255	25	25 00
Jardon, A B	272	17	17 00
Johnson, Eben	139	50	50 00
Johnson, Ebeu	287	50	50 00
Jeghers, A J	3, 4, 5, 6, 7 5-ea	25	25 00
Malone, Geo W	20	10	10 10
Meione, Geo W	21	5	5 00
Powers, Catherine	130	20	20 00
Synnott, John	274	40	40 00
Washburn, E H	326	150	150 00
Washburn, E H	273	8	8 00
Wheaton, Wm R	183	25	25 00
Wheaton, Wm R	259	20	20 00
Wheaton, Wm R	283	20	20 00
Wheaton, Wm R	290	50	50 00
Thompson, Wm	146	10	10 00

And in accordance with law, and an order of the Board of Trustees, made on the fourteenth day of May, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at their salesrooms, No. 426 Montgomery street, San Francisco, on Tuesday, the seventh day of July, 1868, at the hour of 3½ o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

O. D. SQUIRE, Secretary.

Office, No. 302 Montgomery street, San Francisco je20

Hope Gravel Mining Company. Location of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifteenth day of June, 1868, an assessment (No. 24) of one dollar ($1) per shara was levied upon tha capital stock of said Company, payable immediately, in United States gold coin, to tha Secretary, at his office, No. 533 Kearny street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on Wednesday, the twenty-second day of July, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, tha twelfth day of August, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary.

Office, No. 533 Kearny street, corner of Sacramento, San Francisco, California. Office hours from 12 to 2 P. M. je20

Old Colony Silver Mining Company.—Location of Works: Austin, Lander County, Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the twelfth day of May, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
H F Cutter	39	25	$125 00
C Schenck	46	50	250 00
R J Van Dewater	28	75	375 00
R J Van Dewater	47	25	125 00

And in accordance with law, and an order of the Board of Trustees, made on the twelfth day of May, 1863, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No 523 Montgomery street, San Francisco, on the sixth day of July, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

HENRY O. HOWARD, Secretary.

Office, 623 Montgomery street, San Francisco. je20

Senator Silver Mining Company.—Location of Mine: Storey County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the ninth day of June, 1868, an assessment of ten cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, 408 California street.

Any stock upon which said assessment shall remain unpaid on the fifteenth day of July, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will ba sold on Friday, the thirty-first day of July, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of tha Board of Trustees.

T. B. WINGARD, Secretary.

Office, 408 California street, San Francisco. je13

Silver Sprout Mining Company.—Location of Works and Mines: Kearsarge District, Inyo county, Cal.

NOTICE.—Tha Annual Meeting of Stockholders of tha Silver Sprout Mining Company, for the purpose of electing Trustees to serve for the ensuing year, will be held at the office of the Company, No. 408 California street, on TUESDAY, JUNE THIRTIETH, 1863, at 3½ o'clock, P. M.

T. B. WINGARD, Secretary.

San Francisco, June 5, 1868. je6-4w

The above meeting is postponed to Saturday, July 11th, 1863, at the sama hour and place.

jy4 T. B. WINGARD, Secretary.

Yosemite Consolidated Mining Company.—Location of Works: Santa Fe District, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the ninth day of June, 1868, an assessmont (No. 3) of seventy-five cents per shara was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at his office, No. 533 Kearny street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on Thursday, the sixteenth day of July, 1868, shall ba deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the 11th day of August, 1863, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary.

Office, No. 533 Kearny street, corner of Sacramento street, San Francisco, Cal. Office hours from 12 to 2 P. M. je13

Postponements and Alterations.—Secretaries are requested to give notice of postponements, or alterations which they may desire made in their advertisements at their earliest convenience. Now advertisements should be handed in as early as possible.

Machinery.

VARNEY'S
PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Settlers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the **PACIFIC FOUNDRY,**

1v1 San Francisco.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077

3v13f SAN FRANCISCO.

Notice to Miners,
Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG,

8v13-1y Stove Store, No. 125 Clay street, below Davis.



REMOVAL.

E. O. HUNT'S

Manufactory of

Windmills, Horse-Powers and Pumps,

Has been removed from the old stand on Second street, to

114 and 116 Spear st.,

Next above Stuart and south of Mission st., San Francisco.

Hunt's Patent Wind-Mills, Tread Horse-Powers, Sweep Horse-Powers, (for one or four horses), Sawing Machines, Pumps of all kinds for shallow or deep wells,—including Hunt's Submerged Pump, Hunt's Globe Pump, and Hunt's Single and Double-Acting Pump.

Pumping Machines and general Machinery kept constantly on hand and built to order.

Also, Water Tanks of all sizes.

Having put up large new buildings specially for my business, with greatly increased facilities in the way of room and steam power, I shall be able to build everything in my line at greatly reduced rates.

All desirous of procuring water for irrigating or other purposes, are invited to examine my articles before purchasing elsewhere.

23v16 **E. O. HUNT, Proprietor.**

OIL STOVES!

MORRILL'S

Petroleum and Universal Oil Stoves

Have proved themselves a superior substitute for Wood and Coal Stoves, in that they work quicker, are neater, bake and broil better, are MORE ECONOMICAL generally. They are portable, can be used in any room, with or without chimney, as they emit no smoke, soot or ashes. There are nine different sizes, designed for barbers, dentists, and other mechanical purposes—as well as for cooking. They are perfectly safe.

I now offer a reward of **$100** for every Petroleum Stove exploded by Naphtha delivered at my store, 18 Geary street, where they are for sale by

M. B. BULLARD,

Proprietor of Petroleum Stove for California, and Agent for Universal Oil Stove for Pacific Coast.

N. B.—Petroleum Stoves burn Naphtha converted into a gas. Universal Oil Stoves burn Naphtha, Benzine, or Coal Oil, with non-illuminating flame and light on a wick as easy as a lamp. 21v16 3m

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OILS! OILS! OILS!

MACHINE OILS OF ALL GRADES,

Pure Lard Oil,

SPERM OIL, PARAFFINE OIL, Etc., Etc.

EXCELSIOR MACHINE OIL,

The Best in use.

A. C. DIETZ & CO., Sole Agents

419 and 521 Front street, San Francisco.

22v16-3m

Fire-Brick and Fire-Tile.

THE UNDERSIGNED KEEPS ON HAND A GENERAL assortment of Fire-Brick, Fire-Clay, Brick Dust, and Tiles of different sizes. LIME, PLASTER AND CEMENT. Corner of Market and First streets, San Francisco. Branch Store, Sixth street, Sacramento. Millmen and Gas Companies supplied at short notice.

7v16 6m **H. T. HOLMES.**

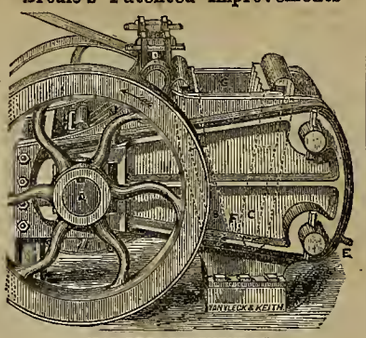
Fire, Hose and Machine Belting.

THE SUBSCRIBER CONTINUES TO MANUFACTURE Oak Tanned Leather Fire Hose, warranted superior to Eastern Hose, manufactured at the Sixth Street Tannery, San Francisco.

21v16tf JOHN J. FULTON.

Economy in Advertising.—The MINING AND SCIENTIFIC PRESS is the best and most ECONOMICAL mining advertising medium in this city. Our terms are less than ONE HALF the rates now charged by daily newspapers, and the mining community are beginning to appreciate our reasonable rates of advertising. The PRESS contains, proportionally a larger amount of mining advertising than any other paper on the Pacific coast. Its character renders it the proper journal for the concentration of mining patronage.

Brodie's Patented Improvements



FOR THE TREATMENT OF

Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:

No. 1—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price..... **$600**

No. 2—Or 15 inch Crusher, capable of similarly putting through five to six tons per hour..... **850**

No. 3—Or 18 inch Crusher, will in a similar manner crush from seven to eight tons per hour..... **1,200**

These Crushers have been erected at several mines in the State of Nevada, and others in Calaveras, Tuolumne and Mariposa counties, to whom applicants can be referred as being the most efficient, cheapest, and least weight compatible with strength and durability, of any Crusher yet erected.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

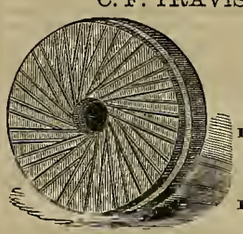
BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.

JAMES BRODIE, Fulton Foundry, or
CHARLES RAOCLIFF,
Express Building, 402 Montgomery street,

12v13tf San Francisco.

C. F. TRAVIS,



Manufacturer of

FRENCH

BURR

Mill-Stones,

AND

PORTABLE

MILLS.

Agent for

Dufour & Co's

Celebrated

DUTCH ANCHOR BOLTING CLOTHS.

Mill Picks, Mill Picks Dressed, Mill-Stones Repaired and Rebuilt; Mill-Stones Balanced with Fellenbaum's Patent Balance, of which I am sole Proprietor for California, Oregon, and Washington Territory. C. F. TRAVIS.

6v16tf 109 Mission street, San Francisco.

ROBERT BRAGG,



STEERING WHEELS

ON HAND AND MADE TO ORDER,

☞ **JOB WORK** done to order, at the shortest notice. Main street, between Folsom and Harrison,

23v16-3m San Francisco.





Pipe Vise, with or without Extra Jaw.

Standard Milling Machine.

UNION VISE COMPANY,

OF BOSTON,

Make Vises of all sizes and kinds, for Machinists, Blacksmiths, and all other heavy mechanical work. Wood-workers' and other Vices, with Covered Screw, for general mechanical work. Standard Milling Machines, very simple and easily adjusted. Address, Boston, Mass. 23v16-ty

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Belting and Lacing.

AN ENTIRELY NEW AND SUPERIOR ARTICLE OF exclusively mechanical preparation, made to order on short notice, and for sale by H. ROYER, at 435 Brannan street, between Third and Fourth. Refers to Elsen Bros., Pioneer Mills; Martin Steen, National Mills; Horace Davis, Golden Gate Mills; also, N. W. Spaulding, Saw Manufacturer. 6v16-3m

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AGENTS FOR

Thomas Firth & Sons' Cast Steel, Files,

Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of

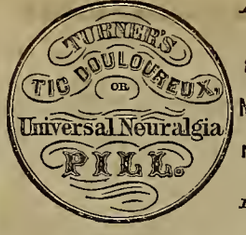
Mill Picks, Sledges, Hammers, Picks,

Stone Cutters', Blacksmiths' and Horse-Shoers' Tools,

319 and 321 Pine Street,

Between Montgomery and Sansome, San Francisco.

luv14qr



A SAFE, CERTAIN, AND Speedy Cure FOR NEURALGIA, AND ALL NERVOUS DISEASES.

Its Effects are Magical.

It is an UNFAILING REMEDY in all cases of Neuralgia Facialis, often effecting a perfect cure in less than twenty-four hours, from the use of no more than TWO OR THREE PILLS.

No other form of Neuralgia or Nervous Disease has failed to yield to this

WONDERFUL REMEDIAL AGENT.

Even in the severest cases of Chronic Neuralgia and general nervous derangements,—of many years standing,—affecting the entire system, its use for a few days, or a few weeks at the utmost, always affords the most astonishing relief, and very rarely fails to produce a complete and permanent cure.

It contains no drugs or other materials in the slightest degree injurious, even to the most delicate system, and can ALWAYS be used with

PERFECT SAFETY.

It has long been in constant use by many our most

EMINENT PHYSICIANS,

who give it their unanimous and unqualified approval. Sent by mail on receipt of price, and postage.

	Price.	*Postage.*
One package	$1 00	6 cents.
Six packages	5 00	27 "
Twelve packages	9 00	48 "

It is sold by all wholesale and retail dealers in drugs and medicines throughout the United States, and by

TURNER & CO.,
Sole Proprietors,

9v16 6m 120 Tremont street, Boston, Mass.

SCREWED BOOTS.

LUMSDEN'S CALIFORNIA APPARATUS

FOR THE MAKING OF

SCREWED BOOTS.

Patented May 26th, 1868.

PRICE, $50.

With this cheap and valuable invention, Boots and Shoes can be made on lasts, with or without being plated, in any style that is required. The State Right will be disposed of at figures that will afford the purchaser an opportunity to realize a fortune.

For particulars apply to

NICHOLAS LUMSDEN, Inventor.
Nevada House, 51 Stevenson St.,

22v16tf San Francisco.



THE FLORENCE

RECEIVED THE HIGHEST PREMIUMS

At all the most important Fairs held in the United States in the year 1867. Gold Medals at the American Institute Fair, New York; Mechanics' Association Fair, Lowell; Maryland Institute Fair, Baltimore. Highest Premium at the New York State Fair, Buffalo, and at the Great New England Fair, Providence. At the Fairs held on the Pacific Coast, this machine has taken

Every First Premium

Awarded on Family Sewing Machines in the LAST FIVE YEARS. If there is a Florence Machine within one thousand miles of San Francisco, that is not giving entire satisfaction, if I am informed of it, it will be attended to without express charge or expense of any kind to the owner.

SAMUEL HILL, Agent.

11v16-4m 111 Montgomery street, San Francisco.

International Hotel,

JACKSON STREET

BETWEEN MONTGOMERY AND KEARNY STS.,

SAN FRANCISCO, CAL.

THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The Beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.

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Uncertainties in Quartz Mining.

There are certain elements of uncertainty in quartz mining not found in farming or manufacturing. The farmer, on looking at the soil, knows that it will produce grain enough to support him; he can ascertain precisely what it will cost him to transport his grain to a market, and so can calculate how much money he will receive from an ordinary crop. There is a possibility of a great drought or a great blight, but he has, perhaps, a little capital as a reliance in such a case, and he makes his estimates on the basis of an average season. If he cannot afford to risk anything, he does all his work with his own hands, and he cannot lose more than his time.

The manufacturer is uncertain about the price which he must pay for the raw material, but he knows the world will have the goods, and will pay as much to him as to anybody else, and if he can manufacture a little cheaper than others he is certain of his profit. If he is incompetent to manage the business successfully, some one else can afford to buy him out at the cost of the building and machinery and make it pay. When a manufacturing establishment is once erected by a person of judgment and experience, it is presumed that the business will go on steadily for generation after generation. The supply of the raw material and the demand for the manufactured article, at least if the goods are not of the sort required by fickle fashion, will remain constant.

But with gold mining it is different. Auriferous quartz lodes have paying quantities of metal only in spots or streaks. The law of the distribution of the precious metals in veins is yet unknown. The quartz may be traced for miles, but only here and there will it pay to work. No mineral lode anywhere is worked, I believe, with much profit for more than two continuous miles, and it is seldom that the pay-rock extends more than one thousand feet along a vein. The great quartz lode of Mariposa, called sometimes the mother vein of California, has been traced, it is supposed, for thirty miles or more; at least croppings of a large lead of the same quality of quartz, nearly in a straight line, are seen at various points between Bear valley, in Mariposa county, and Angels, in Calaveras county; and it is assumed that these croppings all belong to the same lode. In some places this vein is very rich, but the rich spots are not long, and are far apart, and in the intervals the rock is nearly or entirely barren. The miner may find quartz containing ten dollars to the ton, and he knows if the supply is abundant he may make a fortune from his claim; but to explore the lode requires a large capital, and there is no certainty of any return. The rock is too poor to work without a mill, and there is not enough in sight to justify the erection of a mill. If he takes the risk, and the pay-rock is soon exhausted, his mill, in that position, becomes worthless, and he loses the cost of all his frame-work, roads, and ditches, which, with the transportation, is frequently greater than the cost of the machinery proper. The manufacturer knows that his supply of cotton, wool, iron, leather, or wood, will not fail altogether, and if it becomes scanty he can raise his price so that his work will still be profitable; and the farmer knows that his soil will produce grass and grain as long as he lives; but the quartz miner does not know that the supply of his pay-rock will keep steady, and if it runs short he cannot expect the price of the precious metals to rise so that he can sell his produce for a higher price per pound.

There is, again, a great diversity in the facilities for quartz mining at different places. The farmer or the manufacturer usually goes into a level country with open roads, and after ascertaining the distance to the market and the cost of transportation, he can decide whether he can afford to go into business. Perhaps he would find fifty places within a range of ten miles, all equally good for his farm or his factory. But with the miner the case is different. The mines are usually found in the mountains, where there are no roads, water is not conveniently accessible, and wood is scarce. The rock in one part of the lode is hard, in another soft; in one there is much sulphuret of iron, in another little. It is relatively cheaper to work a wide streak of pay rock, other things being equal, than a narrow one. The mill may be far or near; it may be above the level of the mine, or below it; the water for washing the pulverized rock may be obtainable for only part of the year, and the gold may be found in thick masses so that the workmen can conveniently pilfer considerable quantities. Many of the mills are in secluded places, where men of wealth do not like to live, and thus the property is put in charge of

hired men, who lack the zeal and care of a proprietor. These are some of the points in which there are serious variations. It may safely be said that a farmer owning a hundred acres of rich soil on a prairie within twenty miles of any large town of Illinois, is certain of being able to make a very comfortable living; but a miner with a vein of auriferous quartz yielding ten dollars to the ton, within ten miles of a California town, is not certain of anything until he has examined the vein, its position, its size, the character of the veinstone and accompanying minerals, and the proximity and quantity of wood, besides a number of other particulars.

These are some of the diversities of circumstances which beset quartz mining in different places, and render it impossible to give a statement of the expenses of taking out rock, building a mill and reducing the ore, applicable to the majority of the mines. It is useless to attempt to convey any precise idea about matters in which the variations are so great between the workings of different mines, and between the workings of the same mine at different times. All that can be done is to collect the facts in regard to the operations of the mines and mills of which we have reports, so as to show the range.—*Ross Browne's First Report.*

SINGULAR FACT.—For mining purposes, says the *American Artisan*, gunpowder is now very commonly exploded by means of a wire rendered incandescent by electricity. It appears, however, that certain conditions are required to insure success. In vacuo the incandescent wire merely evaporates the sulphur, but the presence of air in ever so small a quantity, of nitrogen, or perhaps of any gas, prevents this, and thus renders the explosion certain. The evaporation of the sulphur is supposed by some to carry off the heat which would be required for the ignition of the other ingredients.

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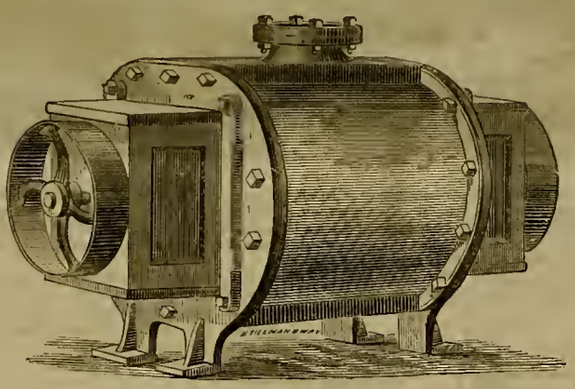
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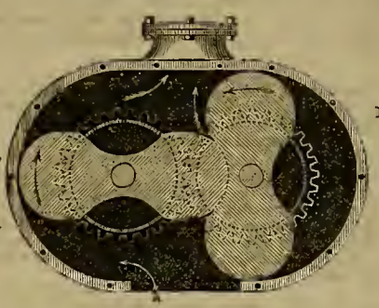
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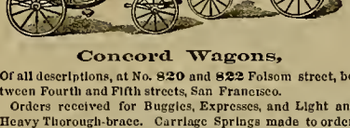
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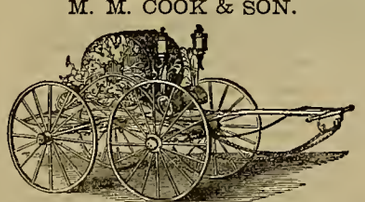


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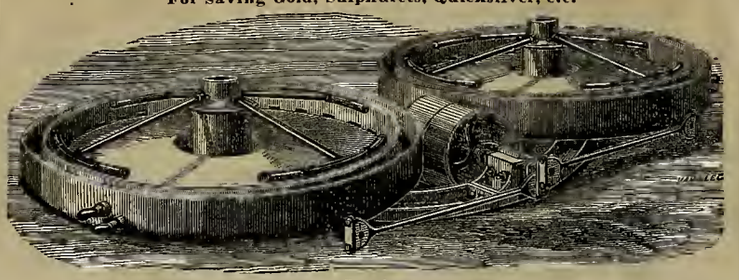


FIG. 1.

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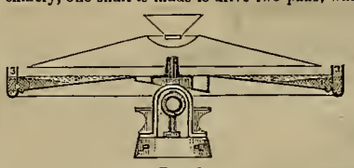


FIG. 2.

Fig 2 is a section through the center of the pan, showing how it operates in separating the sulphurets, as well as the great improvement to the pan, which consists of the addition of a circular trough outside the periphery.

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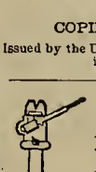
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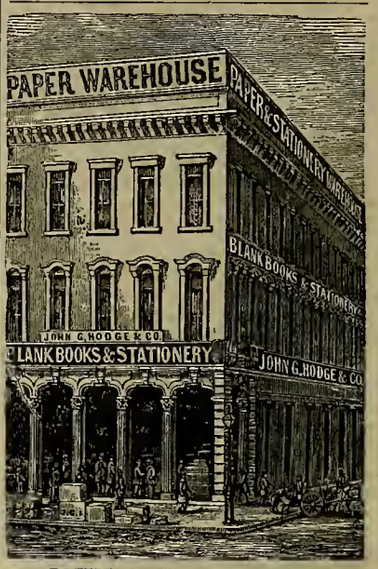
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MISREPRESENTATION. — Somebody, who signs himself "S. R.," has been writing to the *Missouri Republican*, from Tahee, Cal., a long story about the sufferings of newly arrived emigrants in this city. He says that on the arrival of a ship at this port the wharves are usually lined with "an average of eight or nine thousand miserable looking men, each of whom rues the day when he first listened to the stories told about this land of gold." Out of this number, he says at least 5,000 have had no bed the previous night, and no "square meal" during the day. This is about the sum and substance of this lugubrious letter, which, it is needless to say, is a tissue of the most willful misrepresentations and falsehoods, from beginning to end. It is singular that our Eastern cotemporaries are so ready to allow such anonymous correspondents to so abuse their confidence. The only reply needed to such a statement, is the fact that we have in this city a free Labor Exchange, which is widely advertised, and on application to which any person who desires can obtain employment, and if necessary, transportation *free* to the place of employment. Hundreds avail themselves of this agency for obtaining work, every week; and it is usually the case that the demand for ordinary labor exceeds the supply, and at prices which are fairly remunerative.

Since the above was in type we have noticed that the Pacific Railroad Company advertises for 300 hands for laying track—such as spikers, iron-layers, tie-layers, etc.—(work which any able-bodied person can perform) at wages varying from $45 to $65 per month in gold and board.

Furthermore, we may observe that the Secretary of the Labor Exchange has made his monthly report for June, in which he says it is scarcely possible to over estimate the demand for female labor on this coast. Ineffectual offers have been made as high as $30 per month in gold, for persons to do plain cooking, washing and ironing; and this when the same class of labor can be had in New York for from $8 to $12 in currency. We may also add the fact that there is not a man in the almshouse of this city, (nor need there be) able to perform any kind of labor. These facts afford an ample refutation of the above misrepresentations.

Improvement in Gumming and Sharpening Saws.

One of the difficulties, says the *Scientific American*, experienced by practical sawyers in the use of their saws, is the trouble of keeping them in working order. A large portion—toe large—of their time is expended in filing, gumming, or adjusting their saws. A handy, cheap, and portable contrivance for this purpose is certainly a desideratum. The one shown in the engravings contains all these requisites. It may be temporarily affixed to any bench, moved from one place to another, and is adapted to all sizes and styles of saws. The saw, whether circular or straight, can be presented to the gumming wheel at any angle.

Fig. 1

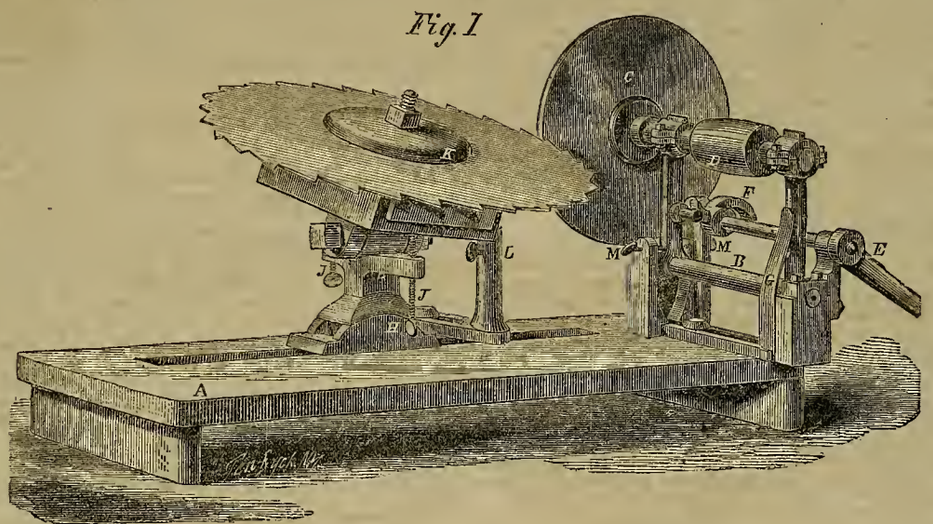
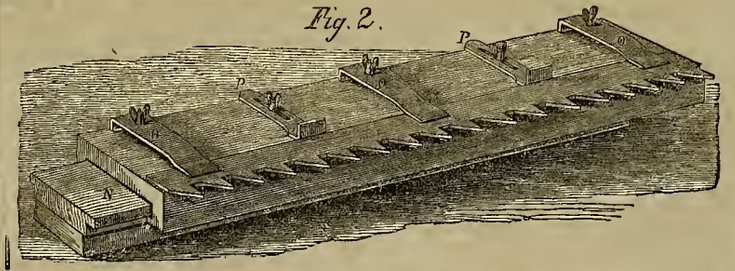


Fig. 2.



MARKLAND'S PATENT ADJUSTABLE SAW GUMMER.

Fig. 1 is a perspective view of the machine in position for operation; Fig. 2 shows the method of securing a straight saw to its bed in readiness to be operated upon by the emery wheel. Let A represent a table, or a section of a work bench, with a slot for receiving the standard of the saw support. The standard which holds the gummer or emery wheel and its appliances has a slotted bottom, through which and the bench passes one or more bolts by which it is held in position, the slot allowing for lateral adjustment. The uprights, which have the journal boxes on their upper end, are secured to shaft, B, allowing a swinging or rocking movement to the gummer, C, and its shaft, which is driven by a belt on the pulley, D. The gummer is advanced to the work by the lever, E, on the shaft of which is a cam, F, working against a stud on the inner side of one of the uprights. A spring, G, returns the gummer to place, when the lever, E, is withdrawn.

The foot of the saw support is pivoted or hinged to the base, H, both being held firmly to the bench by a bolt passing through the slot. This allows the saw to be set at an angle to the gummer. The saw is canted in the transverse direction by a joint and bolt, which permits teeth of any angle of edge to be adjusted to the gummer. Two screws, J, hold the bed of the saw in the position desired. The bed itself is dovetailed, and a corresponding sliding block fits the recess, and is held by a set screw. The bolt, which, with the flanges, K, hold the saw to the block, is small enough to fit the smallest eye, and larger eyes are fitted by means of properly sized thimbles. The stand, L, supports an adjustable rest to steady the edge of the saw on which the gummer is at work. The amount of forward and backward movement of the gummer frame is governed by thumb screws. Fig. 2, is a sliding rest for holding straight saws, its lower portion, N, being formed to fit the same bed as that which the block for holding the circular saw fits. The saw is held by the clamps, O, and adjusted to place by the stops, P. Small fans may be attached to the flanges which secure the gummer to the shaft, one on each side, to keep the teeth of the saw cool while being operated upon. A pan of ice on the bench under the gummer will serve to cool the air before it is taken up by the fans.

The operation of the machine may be readily understood from the foregoing detailed description and the engravings. It was patented April 2, 1867, by Thomas T. Markland, Jr. The machines will be furnished on application to Joshua Hendy, San Francisco; E. D. Eyre & Co., 248 South Eighth street, Philadelphia, Pa., or W. H. Miles, 117 John street, New York. We understand a sample machine will be shown at the Pavilion during the Fair of the Mechanics' Institute in this city, where practical men can see and judge its merits.

UNUSUAL ELECTRIC DISPLAY. The vicinity of this city was visited by a most unusual display of electricity on Monday last. About 8 A. M., a dark thunder cloud came in from the west, near the "Golden Gate," passed to the northward of the city, and apparently directly over the huge proportions of Mount Tamalpais. During its passage, sharp and loud peals of thunder were heard in rapid succession, reminding one vividly of a tempest in the New England States. Another similar phenomenon occurred a few hours later. The atmosphere, or rather the floating masses of vapor in the atmosphere of this region, appeared to be unusually charged with vapor during all the morning; so much so that for the first time since the telegraph has been in operation, in connection with this city, all business was suspended for the period of two hours by the flashes of lightning which played along the wires during the storm at midday. Electrical flames danced around the instruments in the San Francisco office, and it is said there were frequent reports like pistol discharges. As a matter of safety the instruments were disconnected, else they would probably have been melted, as is occasionally the case where lightning storms are frequent. The brass of these instruments in other localities has been melted into globes nearly the size of a bullet, and thick copper wire has melted away like lead.

Between the Warm Springs, Alameda County, and San José, four telegraph poles were shattered by the lightning—something entirely unprecedented in this part of the country. One of the instruments in the office at San José was injured by the lightning so as to render it unserviceable until repaired. More thunder was heard in this city, within two hours, than has been previously heard altogether for the last ten years.

There was but a mere sprinkle of rain in in San Francisco. Much more fell in the direct path of the clouds.

Volatility of Gold and Silver.

NUMBER THREE.

We resume the question of the volatility of gold. If gold be actually volatile to the extent indicated by Mr. Napier's experiments, it might be reasonably anticipated that some gold would be found in the flue-dust of the melting furnace, and that some of the precious metal might even fly out into the atmosphere at the top of the chimney. In the experiments communicated to the Chemical Society of London by Mr. Napier, a digest of which was given in our issue of June 13th, analyses of deposits taken from the top, middle, and bottom of a chimney about 35 feet high were given.

A quantity of soot was also collected, as it escaped into the atmosphere, about four feet above the top of the chimney, which, on examination, was found to contain three per cent. of silver, with also a small portion of gold. Soot deposited on a wall against which the chimney stood, was found to contain 4.2 per cent. of silver, also some gold. The most extraordinary feature in these analyses is the presence of gold in such large proportions; the amount being at least double that which originally existed in the alloy which was treated in the furnace. Mr. Napier hazards, in explanation of this curious result, tho view that this excess proportion of gold is carried off by vaporized metallic copper, owing to the greater affinity of the latter for gold.

In Mr. Napier's second series of experiments, [which are also referred to in our issue of the 23d ult.,] the melted metal was not, as in the preceding instance, covered with charcoal; but a number of bone-ash cupels were kept floating upon the surface of the molten metal, for the purpose of absorbing small quantities of lead, which were contained in the silver operated upon.

Here the loss was of very serious amount, while that of the silver was also quite alarming. These losses appear even more serious when we take into consideration the fact that it is only that portion of the metallic substances which lodges on the sides of the chimney that has any chance of being recovered.

In Napier's experiments the alloys melted contained gold as a minor constituent; in the case of the silver coin, the gold formed in this State and Nevada; but only the and in that of the metal for parting, presumably only one-third or one-fourth of the compound, and yet in both cases gold found its way into the flue-dust. With gold containing 96 per cent. of the precious metal, would there be a sensible loss from like causes? The correct answer to this question is, that the same kind of loss occurs; analyses and examinations made with the deposits from the chimneys of numerous melting houses in Australia have always shown the presence of gold in considerable proportion. Similar results have not unfrequently been obtained from the breaking up or cleaning of melting establishments twelve-hundredth part of the alloy, for evident reasons, little has been said about it. Special care has been taken to keep such facts out of the papers.

In melting the low grade product of many of our mines, which often assays as low as $14 per ounce the loss of gold must, judging from the above experiments, be much greater than when melting the product of those mines which yield very fine gold. This is a matter deserving of the most serious attention.

Moreover, the abundant use of nitre and corrosive sublimate in toughening gold, as is sometimes done, occasions violent action in the melting pot; the use of these chemicals causes an additional loss of gold, presumably by mechanical projection, and the question of the cause of the loss of gold in the melter's hand and of the state in which it escapes into the chimney has become far more complex than in our early gold-melting days, when the alluvial gold of high quality was the only material operated upon; and when this, with the addition of a little borax, was simply melted and poured once

In some of the larger melting houses in Melbourne, Australia, there is a considerable length of flue between the furnace and the chimney-shaft, and in these flues, as well as in the shaft itself, a deposit of dust occurs. From flues of this description and from the shaft of one of these establishments the accumulated dust was recently cleared out. The dust from the flues afforded by assay for each pound weight avoirdupois:

	Grains.
Silver	11.554
Gold	3 211
White alloy of gold and silver	14.765

The dust from the shaft, similarly examined, afforded per pound avoirdupois:

	Grains.
Silver	29 54
Gold	14.12
White alloy of gold and silver	43.66

These results, which are reliable, must speak for themselves; they represent the average of what takes place in the ordinary operations of an assaying establishment, performing the usual varieties of work. If a sample of this flue-dust be taken in the hand, and closely inspected, neither gold nor silver will be seen, and if it be re-washed down to a small bulk, the gold will be almost, or altogether, invisible to the naked eye, or to the eye aided by a pocket lens; but if, after washing a sample, we place the residue under a compound microscope with a magnifying power of about ninety diameters, we shall then observe, lying among the stony particles, numerous spherical globules, and groups of crystals of both gold and silver. The little golden spheres are, many of them, exceedingly brilliant, and perfect in form, and they may be readily distinguished as varying from the rich yellow of fine gold to the pale greenish yellow of alloys containing much silver, so that it can be certainly stated that these minute particles widely differ from each other in fineness. If, again, a portion of dust be removed from the flues of a muffle-stove which has been for some time in constant use, very similar results will be also obtained. After washing this dust, little amber-colored translucent spheres, apparently silicate of lead, may be observed under the microscope, and interspersed among these, countless metallic globules tolerably uniform in size but varying in color, and consequently in their proportions of gold and silver much as those in the flue-dust of the wind furnace vary.

If gold be cupelled with lead, but without silver, there is a notable loss of gold; as often as we repeat the operation on the same piece of pure gold, so often we occasion a further loss of weight. But in the cupellation of gold with silver and lead, as conducted in the ordinary assay, there is a palpable loss of silver, but no *apparent* loss of gold; it appears as though the presence of the more volatile silver shielded the gold and prevented its loss. In reality the case is very different from what it appears, for both gold and silver are actually lost, but as the resulting cornet is never pure gold, but always contains a residue of silver, so the real loss of gold is covered and more than covered by the excess of silver which pertains to the cornet after all the operations of the assay.

To make this quite clear, we venture to give an example. If 10 grains of pure gold are cupelled with 30 grains of silver, and 100 grains of pure lead, we shall obtain a cornet weighing a little over 10 grains—say 10.008, the excess of 8,000ths of a grain is considered as silver left in the gold, and an allowance for this surcharge, as it is called, is made in the common assay. But if we now analyze the 10.008 grains of gold obtained as our result, we shall obtain more than 8,000ths of a grain of silver—say 12,000ths; in this case the extra 4,000ths of silver go to cover the loss of the same weight of gold during the cupellation.

CONCLUSIONS.

From these several results we learn that at very high temperatures gold is volatile; that gold melted at the temperature of our common furnaces suffers considerable loss; that the loss is apparently augmented by the presence of other metals, especially by such as are of a volatile nature. We learn, too, that gold passes off in the assay muffle, and that it may be recognized in, and recovered from, the flue dust; moreover, that it actually passes out of the chimney-top into the atmosphere. How far in these several instances it passes off in vapor, and how far it is mechanically swept away in the draught as *gold mist*, if we may use such a phrase, has yet to be determined; for, although the experiments of Napier are conclusive as to the facts brought forward, the deductions which he has made can scarcely be received as final or conclusive.

A BRILLIANT INVENTION FOR BLINDING BURGLARS.—The carrying of weapons has long been forbidden in France to persons in civil life; but a brilliant Parisian invention has lately been made, which, while conforming with the law, is a partial aid as a means of defence against burglars and other night robbers. It consists of a *horn*, inserted in the end of a cane, which horn contains an electric battery and a small *lamp* with two powerful reflectors. The intensity of this light temporarily blinds any person at whom it is pointed. The lamp is kindled at will by pressing a small knob at the other end of the cane, which knob communicates with an electric wire.

Locomotives in Mining Tunnels.

EDITORS PRESS.—The inclosed calculations and queries are sent with the request that they be published in the MINING AND SCIENTIFIC PRESS, for the purpose of obtaining the facts in regard to the feasibility of running engines in tunnels for mining purposes at a reasonable degree of expense. If that could be done, it would add much to the value of Sierra County; and of course, to all places where gravel deposits lie far back into the hills. The conditions of the calculations apply to all companies just begining to operate in this immediate locality; but before they get worked out, they will have to car at least a mile. If you publish the communication, please make such notice or comment in regard to it as you may see fit. The companies are all anxious to know if engines can be used in carrying. Truly yours, J. F. COLE.

The following are the calculations and queries above referred to:

Company A employs five carmen on a main track tunnel, 2,500 feet in length, with an ontward descent of six inches per hundred feet, or about twenty-eight feet per mile, running at the rate of sixteen trips each, on a shift, with loaded cars weighing 3,000 pounds each. The cost of that carrying for a year would be, for five men by day and five by night, ten men working, say 300 days each, at $3½ per day, $10,500.

If a locomotive could be used the cost per year would he—

Cost of locomotive and apparatus	$3,000	
Interest and repairs per year	451	
Fuel	2,400	
Engineer	1,200	
Amount of cost first year	$7,050	
Balance in favor of locomotive		$3,450
Balance, second year		6,450
" third "		6,450
" fourth "		6 450
Saved in four years		$22,800

Suppose two companies are situated so that the same locomotive could be used by both, and instead of performing the work of ten men per year, it could do the work of twenty men, with the above conditions; then the estimates would be the labor of twenty carmen for 300 days each, at $3½ per day, $21,000. Cost of engine per year, $7,050.

Balance in favor of engine first year	$13,950
Balance in favor of engine second year	16,950
Balance in favor of engine third year	16,950
Balance in favor of engine fourth year	16,950
Amount saved in four years	$61,800

The importance of the following queries are manifest and positive: Can an engine be used in a tunnel three and one-half feet wide by five feet high, with ample ventilation, so that the heat and steam will not interfere? What kind of fuel could be best employed—coal, petroleum, oil, charcoal, coke, or what? Can the smoke be condensed or consumed, or a jet of steam be employed to destroy its noxious qualities? How many empty cars, weighing 1,000 pounds each, could a 40-cwt. engine draw up a grade of forty feet per mile, at a maximum rate of five miles an hour? Have locomotives ever been used in tunnels; and if not, why not, where the operations are extensive enough to justify the outlay?

Answers to any one or all of the above queries, through the columns of the PRESS, are respectfully solicited. Could engines be used in caring, they would add untold wealth to the State. There are large tracts that would unquestionably pay, if the caring cost, at the outside, sufficiently less than by ordinary means.

Table Rock, Sierra Co., June 28, 1868.
J. F. C.

In place of according to Mr. Cole's inquiry the customary brief observations which only can be afforded by the limited space at our disposal in the column set apart to Notices to Correspondents, we have preferred to publish his letter *in extenso*, deeming the inquiries of sufficient importance. The subject matter of inquiry is not one on which we can pass any opinion, so far as personal experience is concerned. We have, however, made some inquiries on the subject, and one gentleman states that in South Wales, the iron ore, raised in such immense quantities in that district, is in several places drawn in cars through tunnels by a small locomotive. This, he states, has been the case for many years, and is given from his own positive knowledge. Coals, he states, as he has been informed, have also been withdrawn in a similar manner. He also states that rails, three feet six inches apart, would amply suffice for the purpose, or possibly even of narrower gauge; as railroads of that narrow gauge have been found well adapted for the formation of an ordinary railroad of some length in a hilly district of North Wales, an account of which was recently published in the MINING AND SCIENTIFIC PRESS. We think, however, the party alluded to, concurs in the opinion, that a hight of five feet would scarcely suffice to render the inconvenience of the waste steam from becoming very troublesome and annoying. To remedy this drawback, the gentleman named suggests that for the purpose of obtaining tractive power, in place of employing a locomotive, an endless rope might be used, worked by a revolving drum, set in motion by a stationary engine at the mouth of the tunnel. The tunnels in England have been worked in this way since the opening of the Manchester and Liverpool Railway, in 1830, one tunnel being about a mile and a half, and another a mile in length.

Ross Browne's First Report.

We are indebted to Prof. W. P. Blake for some advance sheets of J. Ross Browne's second and final report upon the "Mineral Resources of the States and Territories west of the Rocky Mountains." The sheets before us comprise 176 pages. The Professor writes us that at the date of mailing the imperfect copy sent, the entire volume, which contains 700 pages, was already out of the press, and in the hands of the binders, so that we ought to receive the balance of the work soon. Upon tho first of the pages before us, we find the following as the heads of the various points to which special attention is given in the report:

1. The origin of gold mining on the Pacific Coast and present condition of that interest, as tending to show the progress of settlement and civilization.
2. Geological formation of the great mineral belts and general characteristics of the placer diggings and quartz lodes.
3. Different systems of mining, machinery used, processes of reducing the ores, percentage of waste, and net profits.
4. Population engaged in mining, exclusively and in part, capital and labor employed, value of improvements, number of mills and steam engines in operation, yield of the mines, average of dividends and losses.
5. Proportion of agricultural and mineral lands in each district, quantity of woodland, facilities for obtaining fuel, number and extent of streams, and water privileges.
6. Salt beds, deposits of soda and borax, and all other valuable mineral deposits.
7. Altitude, character of climate, mode and cost of living, cost of all kinds of material, cost of labor, etc.
8. Population of the mining towns, number of banks and banking institutions in them, facilities for assaying, melting and refining bullion; charges upon the same for transportation and insurance.
9. Communication with the mines and principal towns, postal and telegraphic lines; stage routes; cost of travel; probable benefits likely to result from construction of the Pacific railroad and its proposed branches.
10. Necessity for assay offices and public depositories; what financial facilities may tend to develop the country and enhance its products.
11. Copies of local mining laws, and customs regulating the holding and working of claims.
12. Number of ledges opened, number claimed, character of the soil in the mining districts, and its adaptation to the support of a large population.

The 176 pages before us, after a few preliminary remarks, are entirely devoted to the consideration of so much of the first point enumerated as relates to California. In presenting the present condition of the mining interest of this State, each county is considered separately, and each of the principal mines in the several counties is separately examined and reported upon. The report is evidently very elaborate, and we have no doubt it will furnish a large amount of valuable information—far more than will be considered commensurate with its cost. We shall speak more fully of it when we have the entire document before us.

Since the above was in type, Mr. Browne has laid upon our table the report complete, but too late for further examination this week.

Mechanical.

The Durability of Materials.

NUMBER II.

The durability of metals, like that of organized substances, depends mainly on the resistance they offer to a combination with oxygen; and thus their decay may also be regarded as a slow combustion. But their durability further depends on the character of the oxides formed on their surface. Iron exposed to moisture will soon be coated with rust, in the form of hydrated peroxides; and as the oxides do not adhere to the surface, additional flakes constantly form and fall away, until the whole mass is destroyed. Wrought iron in a pure dry atmosphere suffers, practically speaking, no deterioration in any lapse of time. It is extremely durable in distilled water free from air; but it is slowly oxidized in a moist atmosphere, and with fatal rapidity in air or water containing free acids or other corrosive agents. It is, however, efficiently protected from such agents by paint, which adheres to clean iron with great tenacity. It is also a fact, not hitherto satisfactorily accounted for, that oxidation is to a great extent arrested by vibration. The painting of wrought-iron girders and roofs, more especially in the neighborhood of smoky towns, is a precaution of the utmost importance. Every care should be taken to expose the iron as freely as possible to the air, to leave no hollows where water can collect, to avoid the contact of damp earth, and especially of vegetation, and to throw the material into the form of heavy bars rather than thin plates. Painting is more economically performed, and more effectual, when constantly attended to, than under the vicious practice of laying on three or four coats, and then leaving the work for years, till the paint all peels off, with a layer of rust attached to it.

The Britannia Bridge furnishes a striking illustration of the value of this system. The maintenance had been effected by two or three men, constantly on the work, who attended to the slightest symptom of local discoloration. As a consequence, the author did not hesitate to express his firm belief, that the total loss from rust of the 10,540 tons of which the tubes consisted, did not in twenty years amount to a single pound weight.

Cast iron, when exposed to the action of sea water, slowly decomposes the iron; being dissolved, leaving behind a graphite or plumbago. The action is, however, superficial, and very slow. It can be preserved by painting, where accessible for that purpose, or by any protection which prevents continual renewal of the surrounding medium, as when inclosed in brickwork or masonry. In fresh water it suffers no such deterioration, and under ordinary circumstances its durability in a pure atmosphere appears unlimited.

In the case of zinc, although the bright metal oxidizes even more rapidly than iron, yet the oxide adheres with such tenacity to the metal that it affords an efficient protection against the continuation of the process. To this property the metal owes its great durability, more especially as its oxide is insoluble in water. In the presence of any solvent of the oxide, this metal is so speedily destroyed as to be practically useless, unless protected by paint. The destruction of zinc in smoky districts is, however, principally due to galvanic action. A similar action produces the rusting away at the base of iron railings, when fixed in stonework, as is usually the case, by being run in with lead. The contact of copper with the iron plates of a vessel is also a source of great danger; and there are numberless other instances in which the contact of metals of different conducting powers is equally destructive. In all such cases the use of paint furnishes, at any rate, a temporary remedy.

It is difficult to over-estimate the value of the introduction of the process of coating iron plates with zinc, by simply cleaning and immersing them in the molten metal. All that has been said on the subject of zinc applies equally to galvanized iron, as it is called. In a clear atmosphere its great durability, its stiffness, its freedom from expansion, and its economy, are all qualities of the highest value; while, on the other hand, without constant painting, it is wholly unfitted for the atmosphere of smoky towns, or manufactories, or even stations where it is exposed to the fumes from locomotives. Both the corrosive and the galvanic actions, which in such cases are so destructive, do not cease with the destruction of zinc, which is soon affected but continues also to act, with fatal effect, upon the iron itself, as may be seen in many railway stations and sheds near the manufacturing towns. The corrosive tendency in zinc and iron obliges the use of less oxidizable metals, copper and lead. Lead slowly absorbs oxygen and carbonic acid in moist air. It is acted upon by certain waters, and is occasionally riddled with holes by the larvæ of an insect; and its expansion and contraction requires to be allowed for in its use. Its ductility render it a valuable material. Copper might, however, in many instances, be used with great advantage in its stead.

The action of sea water on copper is so important that it was particularly alluded to. The object in covering a vessel with copper is solely to prevent the adhesion of barnacles and other molluscs. This property is not due to the poisonous quality of its salts, as is sometimes asserted, nor is copper used on account of its durable qualities; on the contrary, its value depends on its slow destruction. The chloride of copper formed beneath the attachment of the barnacle being a soluble salt, the creature no sooner effects a lodgement than it is at once set free by the solution of the salt; while the salts which forms on zinc or iron being insoluble, the plate is rather protected than otherwise by the tenacious parasite. Hence the difficulty of devising an efficient paint for iron ships; for while, on the one hand, it must be slowly soluble in water to prevent this adhesion, it must, on the other hand, be sufficiently insoluble to be durable. Ordinary oil paint is the most efficient material for protecting either metals or wood from the effects of moisture and air; but all oils, resins, and gums exposed to air, and especially to the light of the sun, oxidize and burn away with more or less rapidity, leaving a powdery residue behind. As a preservative of paint against the heat of the sun and light, attention was directed to the virtue of a coating of silicious sand, dredged on the paint while wet.

The durability of matter is a subject of the highest philosophical interest. The universal law on this planet appears to be that no form shall be permanent. Never-ceasing destruction and reconstruction are characteristic, within the range of the atmosphere, of everything that exists, whether as regarded organic life or inorganic matter; and it is probable that even the atmosphere itself is subject to the same decree.

Excellent Emery Wheels, which may be used with water, as are grindstones, are made by dissolving gum shellac in alcohol, mixing the emery with it and pouring and pressing in molds. Good wheels may also be made by a mixture of glue, dissolved, and emery, treated in a similar manner. Ordinary wheels are made by covering the periphery of a wooden disk, suitably secured to a mandrel, with folds of woolen or canton flannel, and covering the whole with leather or strong cloth. Upon this is placed a coating of emery secured by zinc.

The town of Winchendon, Mass., claims to manufacture more wooden ware than any other town in the world. Two of the largest firms turn out $500,000 and $200,000 respectively, and the smaller establishments of the place make the aggregate annual product of the wooden ware interest mount up to over $1,000,000. In addition to these factories, Winchendon contains two cotton mills, two bobbin mills, two machine shops, and two sewing machine manufactories.

Steel is successfully alloyed with other metals, improving its qualities for some purposes. One five hundredth part of silver adds immensely to the hardness of steel and yet increases its tenacity. One hundredth part of platinum, though not forming so hard an alloy as the silver and steel, gives a very great degree of toughness. Rhodium, palladium, iridium, and osmium, make steel very hard, but their use, from their cost, is confined mainly to the experimental laboratory.

Drilled vs. Punched Holes.—A large number of specimens of steel plates were recently tested at Chatham Dock-yard, to determine the difference in strength between steel plates with punched and drilled holes. The advantage in tensile strain, gained when the holes are drilled rather than punched, was calculated to be 22.5 per cent.

During the summer, twelve or fifteen large iron furnaces are to be erected in Lehigh County, Pennsylvania.

Scientific Miscellany.

Science in the Arts.

A somewhat remarkable instance of the value of science to the arts is exemplified in the recent development of a new industry, under the direction of Messrs. Maumené & Ragelet, of Paris. This is pronounced one of the most singular discoveries in the history of agriculture. It has long been known that sheep draw a considerable quantity of potash from the land upon which they graze, much of which is excreted from the skin with the perspiration of the animal; and it has been shown by Chevreul that this peculiar potash compound, which is known as "suint," forms no less than one-third the weight of raw merino wool; while of ordinary wools it constitutes about fifteen per cent. of the fleece.

As this compound is soluble in cold water, it is easy for the wool manufacturer to produce a more or less concentrated solution of the same, and from which the potash may be recovered by an appropriate treatment. The process of this treatment constitutes the new industry alluded to, and which is now being introduced into the principal woolen manufactories of France. The plan adopted by Messrs. Maumené & Ragelet is a very simple one, and is described as follows:

They evaporate the solutions which are sent to them, until a perfectly dry and somewhat charred residue has been obtained. This is placed in retorts and distilled, very much in the same manner that coal is distilled at gas-works; and the result is that, while much gas is evolved, which can be used for illuminating the factory, and much ammonia is expelled, which can be collected and utilized in many ways, there remains a residue, which chiefly consists of carbonates, sulphate, and chloride of potassium. These three salts are separated by the usual method, and then pass into commerce. Curiously enough, they are remarkably free from soda.

Some idea may be formed of the prospective magnitude of this new industry, from the fact that there are nearly 50,000,000 fleeces washed annually in France, which would yield, if all subjected to this process, not less than $2,800,000!

Sheep feeding, it is well known, is very exhaustive to the soil. The facts above developed make clear the manner in which this deterioration occurs, and points out the remedy. The potassic constituents so extensively drawn upon must be supplied; it is a duty the farmer owes to the soil,—the neglect of it is but little short of a crime to the community. The entire development of the above series of facts affords a most practical illustration of the value of science in the arts.

Passage of Hydrogen through Iron at a Low Temperature.—Not long ago we gave some account of the transmissibility of gases through cast iron at high temperatures. To-day we give an interesting experiment which shows that hydrogen will pass through cast iron at the ordinary temperature. M. Cailletet took an iron flask with a long (curved) neck, exhausted the air from it, and placed the mouth under mercury. The body of the flask was then set in a vessel of dilute sulphuric acid. The outer surface was, of course, attacked by the acid and hydrogen evolved, some of which passed into the interior of the flask, and, driving out the mercury, escaped in bubbles from the trough. There may be more in this experiment than M. Cailletet suspects. Hydrogen passes into metals with most remarkable facility, and Mr. Graham believes is liquified with them.—*Mechanics' Magazine.*

Electricity in Vacuo.—Mr. Alvergniat, of Paris, has constructed a new apparatus for proving that electricity cannot pass through an absolute vacuum. Two platinum wires are inserted into a tube so that their free ends are within about an eighth of an inch of each other. The air is then exhausted from the tube by means of a mercurial column, after which the electric spark will not pass from one platinum wire to the other.

A Saturometer.—M. Coret has recently devised an instrument—a saturometer—which is intended to be affixed to steam boilers which use salt water, to determine the degree of saturation and at the same time to record the level of the water in the boiler. The action of the instrument depends on the well-known principle that when two different liquids, having the same temperature and no chemical affinity, are placed in an inverted syphon, their lights in each column, under the condition of equilibrium, will be inversely as their densities. Two glass tubes, communicating with each other at the bottom, are placed side by side with a graduated scale between them. One tube is connected with the feed-water, and the other with the water in the boilers; so arranged that when the comparison is to be made the connections are cut off. It is said the accuracy of this apparatus permits a nearer approach to the point of saturation than formerly, thus obviating the difficulties and loss of heat arising from an unnecessarily frequent "blowing off," to remove the excess of saline deposits from the boiler.

To Electro-Plate Paper or other Fibrous Material.—A mode has been devised for depositing copper, silver or gold, by the electric process, upon paper or any other fibrous material. This is accomplished by first rendering the paper a good conductor of electricity, without coating it with any material which will peel off. One of the best methods is to take a solution of nitrate of silver, pour in liquid ammonia till the precipitate formed at first is entirely dissolved again; then place the paper, silk, or muslin, for one or two hours in this solution. After taking it out and drying well, it is exposed to a current of hydrogen gas, by which operation the silver is reduced to a metallic state, and the material becomes so good a conductor of electricity that it may be electro-plated with copper, silver or gold in the usual manner. Material prepared in this manner may be employed for various useful and ornamental purposes.

Combustion.—The perfect combustion of one ton of anthracite coal or of coke, requires over 5,970 pounds of oxygen, derived from about 340,000 cubic feet of air at ordinary temperature, equivalent to a column one foot square and over sixty-four miles in length. This calculation is based upon the supposition that all of the oxygen of the air is made available, but in practice it is found necessary to introduce twice the quantity of air that by calculation would be sufficient.

In the conversion of one part of solid carbon into carbonic oxide, there are involved 2,473 heat units. In the conversion of the carbonic oxide thus obtained, into carbonic acid, there are involved 5,607 heat units, making 8,080 heat units in all, of which the first or imperfect combustion yielded but thirty-one per cent. of the obtainable heat; so that to limit the supply of air so as to cause the exclusive production of carbonic oxide, would necessitate the use of three times as much fuel as would be required to do the same work were it properly burned.

Gilt Wire.—The gilt wire employed in making gold lace soon tarnishes. The surface of gold seldom being perfectly continuous, sulphur gets at the metal beneath, whether copper or silver, and the wire quickly blackens. To avoid this result, M. Helouis proposes to insert a thin layer of platinum between the copper and the gold. To do this, he drives a bar of copper into a ring of platinum strongly heated. The contraction of the platinum on cooling fixes it firmly to the copper, and the wire may be drawn without any risk of separating the two metals. The gilding may be done as usual. The color obtained is as good as that of silver gilt wire, and, of course, lasting, for sulphur will have no effect on the platinum.

In 1829, there were but three miles of railway track in the United States; to-day there are not less than 38,500 miles. The railroad business of the Union employs about 500,000 men.

New Patents Issued to Pacific Coast Inventors.

Specially reported by the U. S. Patent Office, Washington, D. C., to DEWEY & Co., American and Foreign Patent Solicitors, and Publishers of the MINING AND SCIENTIFIC PRESS.

ISSUED FOR THE WEEK ENDING JUNE 23, 1868.

79,076.—IMPROVED SAFETY GUARD FOR MINING SHAFTS.—E. O. Leermo, of Gold Hill, Nev.:

The combination with a railroad track and the cage of a mining shaft of the automatic safety guard attachment, substantially as and for the purpose described.

The combination of the spring buffer H, spring lever E, and slide D, substantially as and for the purpose described.

79,115.—IMPROVED DRILL STOCK.—Martail Hainque, San Francisco, Cal., assignor to self and John Lowth, of same place:

The combination of the drill stock "A," with the bar "D," the plain or corrugated git C, and the sieve "B," the said parts being constructed and arranged substantially as described.

79,156.—IMPROVEMENT IN CHURNS.—Andrew Stump, Bodega, Cal., assignor to self and Chas. Colby:

In combiuation with the revolving box A, the interior revolving sbaft F, aud arms c, c, together with the clasp H, and pin I, the whole constructed and operating substantially as and for the purpose described.

The object of this invention is to provide an improved churn, hy which the cream can be thoroughly agitated, and more speedily converted into butter than can be done hy churns in ordinary use. This is dono hy constructing a long box, of any convenient shape, although one whose cross sections shall be square is deemed preferable. This box is supported horizontally, and revolves upon spindles at either end. A second shaft passes through the box, bearing arms, and is revolved hy a crank in an opposite direction to the motion of the churn, until butter is formed, when it is fastened so as to remain stationary while the box is being revclved. By means of these opposite motions, it is claimed that tbe cream is most successfnlly agitated to accomplish the purpose desired.

70,199.—IMPROVEMENT IN SEWERS.—Jesse Brown, San Francisco, Cal.:

The protective cap when constructed and arranged as described, so as to secure the upper and lower drains of privies, as set forth.

79,232.—IMPROVEMENT IN TICKET PUNCHES. Robert James Kellett, San Francisco, Cal.:

Having described my improvements in ticket punches for railroads, steamboats, etc., I will state, that in combination with a ticket punch provided with a device for removing a coupon or portion of a ticket and having a box or receptacle arranged to receive the portion so removed,

I claim a small auxiliary punch, so arranged as to punch a hole in the coupon or portion so removed at tho same operation which removes or punches the coupon or portion of the ticket; thus providing a convenient means for stringing said coupons or portions for preservation and reference as described.

79,274.—IMPROVEMENT IN RECIPROCATING STEAM ENGINES.—David Stoddart, San Francisco, Cal.:

I claim the arrangement of the pistons B', B², small pistons D', D², valve c, and tho passages H', H², communicating to the cylinder substantially as described.

RECENT INVENTIONS.

A NEW GRATE FOR FURNACES.—In the ordinary form of furnace grates the bars of iron are made stout enough to sustain the weight of the coal, even after being weakened by heating, and, as a consequence, much of the coal resting on the iron is not brought into contact with air, and its gases are driven off unconsumed, causing the dense black smoke escaping from the chimneys, when bituminous coal is burned. An arrangement has lately been patented in England, by which the air is admitted to all parts of the burning mass, and the smoke almost entirely consumed, with a great reduction in the amount of ashes.

A NEW USE FOR GUTTA PERCHA.—Quite a new use for gutta percha has recently been devised, which is causing considerable excitement among the paper-hangers and paper-makers. This novelty is a preparation of the gum in question, in thin sheets, for covering the interior walls of dwelling houses. Such a fabrication if made ornamental and practical in application, must exceed in durability and imperviousness to moisture, anything which has yet been devised.

NEW BEARING FOR PERPENDICULAR SHAFTS.—The Nevada *Transcript* describes what appears to be a useful contrivance for overcoming the friction of perpendicular shafts: The shaft being square at the base rests upon hardened steel balls, and the halls rest upon the steel forming the socket. The shaft revolves upon tbe balls and turns almost without friction. One at work in Fisher's machine shop has a shaft weighing three hundred pounds, which could be made to revolve three times with one effort of the hand. It was tested with a shaft weighing seven hundred wounds without any perceptible increase of friction. The invention will be found very useful for flouring mills and all other machinery where perpendicular shafts are used. The *Transcript* adds, that it has been examined by many practical mechanics, and pronounced by all who have seen it an excellent invention.

Notices of Recent Patents.

78,669—IMPROVED PLATE FOR ARTIFICIAL TEETH.—D. S. Hutchinson, San Francisco, Cal.:

I claim a flexible cavity plate, having in part or in whole the palatine portion of the plate made of flexible material D, in connection with a compound cavity or series of cavities, united or otherwise, with a cavity on the center or palatine portion of the plate and upon the internal or external (or both) borders of the alveolar ridge, substantially as and for the purpose specified.

The object of this invention is to provide a plate for artificial or false teeth so constructed that there will be no danger of their loosening and dropping down when in use, and also to prevent the plate from irritating the palate, especially where the tissues of the alveolar and palatine arches are of unequal hardness. The invention consists in having cavities of any desired form upon that portion of the plate corresponding to the external and iuternal borders of the alveolar ridge of the mouth, and connecting or not, as is desired, with a chamber or cavity upon the central portion of the palatine arch; also, iu having that portion of the plate which rests upou the palatine arch, or any part of it, composed of a flexible material or compound, thereby securing a more perfect adhesion of the atmospheric plate to the roof of the mouth. The flexihle material is applicable to all kinds of plates, such as gold, silver, platinum, porcelain or vulcanite base.

78,703.—IMPROVED SPURS.—Sam. Wehrly, San Francisco, Cal., assignor to self and E. V. Sutter, of same place. (Antedated May 4th, 1868.)

I claim a spur having the dog *o*, the rack *m*, aud arm *d*, togcther with the spring *c*, and slotted plate *b*, the whole constructed and operating substantially as and for the purpose described.

The object of this invention is to provide an improved spur for horsemen. It consists principally in an improved mechanism for attaching the spur quickly and firmly to the boot, and dispensing with the screw or strap generally used. By this device a neat and substantial spur is obtained, which is free from the usual difficulties of attaching and taking off. There is little or no liability of its loss, a fact which makes it especially valuable for military use by cavalry.

78,825.—IMPROVED FORGING APPARATUS.—Nelson Peterson and Geo. W. Jones, Antioch, Cal.:

1. The bar H, with its slotted lever N, screw P, and spring I, in combination with tbe link J, and handle B, substantially as described.

2. We claim the bearings E, having the recesses d, d, d, for supporting the axle D, so as to allow the hammer to be used on any part of the anvil, substantially as described.

The object of this invention is to provide a spring-hammer for smith's use, which can be readily turned to any portion of the anvil, and which can be conveniently operated by the foot without the assistance of a helper. The hammer is raised by a spring, either flat or spiral, while by a treadle conveniently situated, the smith can bring the hammer down with any required degree of force. By turning the hammer over, the toe or point may be used when desirable. Any sized hammer may ho used by increasing the power of the spring to lift it.

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board.

Mining Share Market.

Since the reassembling of the Board on the 8th inst., after a holiday adjournment of several days, the general list usually dealt in has been somewhat broken up, and sales have been quite irregular, generally showing a tendency to lower prices. Outside dealers show more of a disposition to invest under these circumstances, and at the close the market exhibited no improvement.

The attention of our readers is called to the annexed interesting tabular statement for the quarter ending with June. It will he noticed that in some respects it is incomplete, as, for instance, the hullion product of the Yellow Jacket Company was reported previously to the present year, while for 1868, owing to the reticence of the officials at Virginia, we have been unable to give them. Otherwise, so far as reported, the hullion product is in the main correct:

Company.	Highest Price.	Lowest Price.	Bullion.	Assessment.	Dist'd.	Highest Price.	Lowest Price.	Bullion.	Assessment.	Dist'd.	Highest Price.	Lowest Price.	Bullion.	Assessment.	Dist'd.
	APRIL.					MAY.					JUNE.				
Alpha	$120 00	$50 00	$5,639 63	$8,400 00		$39 00	$32 50	$284,892	$22,400 00	$206,200	$76 00	$36 00	$308,323	$6,000 00	
Belcher	207 50	90 00	42,412	30,000		295 00	145 00	44,312	45,000	72,500	257 50	115 00	45,536		
Bullion	17 00	15 00	1,345 00			9 00	5 00	1,025 00			5 00	4 50	1,000		
Total in 1868			1,595,869	164,000	140,000			1,595,869	164,000	140,000			1,608,884	58,000	174,000
Total in 1867			1,528,170	144,400	120,000			1,815,000	30,000	120,000			1,528,170	144,400	120,000
Andes	31 00	15 00	1,000			14 00	9 00	1,000			9 00	5 00	1,000		
Annidor, (Cal.)	17 00	15 00	1,000			15 00	11 00	1,000			11 00	5 00	1,000		
Bachelor	2,700 00	2,500 00	5,000			2,500 00	2,500 00	5,000			2,500 00	2,500 00	5,000		
Belcher	253 00	109 00	37,639			145 00	77 00	37,639			88 00	47 50	37,639		
Bodie	2,500 00	2,500 00	5,000			2,500 00	2,500 00	5,000			2,500 00	2,500 00	5,000		
Bonanza	2,500 00	2,500 00	5,000			2,500 00	2,500 00	5,000			2,500 00	2,500 00	5,000		
Brownell	2,500 00	2,500 00	5,000			2,500 00	2,500 00	5,000			2,500 00	2,500 00	5,000		
Bullion	17 00	15 00	1,000			15 00	11 00	1,000			11 00	5 00	1,000		
Central	2,500 00	2,500 00	5,000			2,500 00	2,500 00	5,000			2,500 00	2,500 00	5,000		
Challenge	2,500 00	2,500 00	5,000			2,500 00	2,500 00	5,000			2,500 00	2,500 00	5,000		
Chollar-Potosi	230 00	212 00	46,676	$34,000		220 00	214 00	64,839	$60,000		310 00	214 00	64,839	$60,000	
Confidence	2,500 00	2,500 00	5,000			2,500 00	2,500 00	5,000			2,500 00	2,500 00	5,000		
Crown Point	2,025 00	1,900 00	$169,674			1,900 00	1,700 00	$168,567	$35,000		1,700 00	1,025 00	$115,000		
Daney	2,500 00	2,500 00	5,000			2,500 00	2,500 00	5,000			2,500 00	2,500 00	5,000		
Empire M. & M. Co.	225 00	40 00	17,674			275 00	200 00	17,095			325 00	200 00	20,539		
Gould & Curry	535 00	225 00	64,347			655 00	323 00	51,395			400 00	323 00	32,051		
Gold Hill Q. M. & M. Co.	1,900 00	1,900 00	5,000			1,900 00	1,900 00	5,000			1,900 00	1,900 00	5,000		
Imperial	315 00	210 00	58,579			400 00	187 50	106,970			219 00	129 00	65,547		
Imperial-Empire	425 00	315 00	110,517			430 00	315 00				350 00	129 00			
Justice and Independent	60 00	42 00				85 00	50 00				55 00	41 50			
Kentuck	210 00	105 00				125 00	70 00				70 00	47 50			
Lady Bryan	15 00	15 00				15 00	15 00				15 00	15 00			
Ophir	1,700 00	1,600 00	5,000			1,600 00	1,600 00	5,000			1,600 00	1,600 00	5,000		
Overman	255 00	109 00				145 00	77 00				88 00	47 50			
Segregated Belcher	2,500 00	2,500 00	5,000			2,500 00	2,500 00	5,000			2,500 00	2,500 00	5,000		
Savage	255 00	109 00				145 00	77 00				88 00	47 50			
Sierra Nevada	1,600 00	1,600 00	5,000			1,600 00	1,600 00	5,000			1,600 00	1,600 00	5,000		
Union	2,500 00	2,500 00	5,000			2,500 00	2,500 00	5,000			2,500 00	2,500 00	5,000		
Yellow Jacket	1,900 00	1,900 00	5,000			1,900 00	1,900 00	5,000			1,900 00	1,900 00	5,000		

For want of space, the following mining companies have not been included in the above statement: Assessments—Julia, in April, $5,000; United States, in April, $12,000, in May, $4,000; Union, in June, $6,000—total, $27,000. Dividends—North Star, in June, $15,000; Bacon M. & M. Co., in June, $8,000; and Golden Rule, $1,500—total, $24,500.

SAVAGE—declined from $160 to $136, and at the close sold at $139. During the week ending July 4th, 1,495 tons of ore were extracted, showing an approximate assay value of $39 58; previous week the value per ton, upon the same basis, was $44 60. The decrease is due to the lessened product of first class ore. The south mine, on the fourth station, continues to yield the largest amount, having contributed 1,072 tons, of the amount reported, during the week under review. The south mine, on the fifth station, is said to improve as they go south, and it is believed that the ore from this locality will soon he up to the value of that from other parts of the mine. The drift is over thirty feet from the line. At the sixth station work has been somewhat delayed on account of necessary repairs at other points. A dividend of $15 per share, or $300 per foot, is payable since the 10th instant, after paying which a surplus of about $85,000 remains in the treasury. The bullion product o the first six months of 1868 amounted to $1,528,170, against $1,815,000 same time in 1867. The annual meeting takes place on the 16th instant.

IMPERIAL—receded from $140 to $115, then sold at $128, and closed at $123. On the 7th of July the drift from the Imperial-Empire shaft was in seventy feet, and the side drift, running south, sixteen feet—neither showing ore. The progress in these drifts is about four feet per day. The daily product of ore is about eighty tons—seventy from the Alta and ten from the Holmes mine. According to our tabular statement, the hullion yield during the first half of the present year aggregates $355,987 against $618,744 same time in 1867.

CROWN POINT—sold at $96 at the close of Board transactions on the 3d inst., improved to $98, then sold at $91, and at the close realized $89. A dispatch of the 10th states that the south drift, now about 200 feet from the line, is generally poor; however, the upper floors are said to he improving. The drift from 900 station is in twenty-two feet, and running in softer rock. A dividend of $7 50 per share is payable on and after to-day, leaving a halance in the treasury of about $40,000. The bullion receipts during the first six months of 1868 aggregated $630,911; same time in 1867, $558,913—difference in favor of 1868, $72,000. In the first six months of 1866, this company disbursed dividends amounting to $174,000; in 1867, $264,000, and in 1868, $150,000.

OVERMAN—declined from $75 to $62 60, and closed at $69. From the comprehcusive annual report submitted to the stockholders on the 9th inst., by the Secretary, we make the following extracts:

RECEIPTS.

Cash on hand last report	$53,784 02
Bullion	328,965 62
Ore sold	4,652 24
Assessments	112,897 50
Other receipts	3,554 60
	$498,853 98

DISBURSEMENTS.

Reduction expenses	$260,944 29
Labor	98,094 29
Lumber and wood	35,580 17
Legal expenses	8,990 00
Salaries	7,382 37
Other expenses	35,578 40
Cash in Superintendent's hands	9,016 43
Cash in treasury	43,168 03
	$498,853 98

During the fiscal year, 19,208 tons of ore were reduced, yielding $16 86 per ton, and 1,106 tons were sold, averaging $4 26 per ton. Cost of mining the above amount of ore, $6 68 per ton.

KENTUCK—sold at $392 50@383, and at the close realized $392 50. The total receipts of this company, during the month of June, amounted to $122,122 77, of which $120,766 45 was hullion, and the expenses aggregated $67,216 42, leaving an earned halance of $54,906 35. A dividend of $25 per share will be paid on the 20th inst. During the first six months of 1868, the bullion yield was $569,591 against $543,886 in 1867. In first six months of 1867, $200,000 were disbursed in dividends, and same time in 1868, $170,000.

HALE & NORCROSS—has been in the market to a large extent, declining from $74 to $65, then selling at $71, and closing at $69. Nothing of special interest from the mine. The hullion returns for the first half of 1868, foot up $287,773 against $644,373 same time in 1867, and $337,822 in 1866. In first six months of 1866 distributed $60,000 in dividends; same time in 1867, $200,000, and in 1868, none.

CHOLLAR-POTOSI—sold at $230@212, and closed at $214. Considerable trouble is experienced in the lower levels, by the large flow of water. The drift is over 74 feet from the 1,100 station. Ore product during week ending July 3d, 1,050 tons. Bullion yield first six months in 1868, $299,085; same time in 1867, $1,190,383, and in 1866, $441,454....GOULD & CURRY sold at $114@100. Work continues on the shaft. The only hullion received the past six months was in January, amounting to $14,476. In first six months of 1867 received $346,906, and same time 1866, $900,132....CONFIDENCE sold at $30@38. From 399 tons of ore reduced in June, obtained bullion amounting to $8,625 51.

EMPIRE—has been inactive, selling on the 3d inst. at $145@150. Drifts progress slowly in porphyry and hard ground. Bullion receipts first half of 1868, $104,538; same time 1867, $154,339, and 1866, $200,277....GOLD HILL QUARTZ sold at $90@85. Reduced 590 tons of ore in June, showing a yield of $12,051 32. Assets on the first of July, $16,300, deducting liabilities—$8,200—leaves a halance of $8,100....SEGREGATED BELCHER obtained $4,345 in hullion from 250 tons of ore recently reduced. ....On the 8th inst., the OPHIR shaft was 332 feet in depth....NORTH STAR will disburse usual dividend of $5 on the 15th inst.

City Stocks.

We note sales of California Steam Navigation Co. at 70½ per cent.; Spring Valley Water at $68@66; Omnihus Railroad $70, and North Beach and Mission Railroad $67. Within the week numerous dividends have been declared by the various local institutions, as follows: Savings and Loan Society, (semi-annual) 10 per cent. per annum, free from Federal tax, payable since the 10th instant; Odd Fellows' Savings Bank, (semi-annual) 12 per cent per annum, payable on and after 15th instant; Farmers' and Mechanics' Bank of Savings, 10 per cent. per annum—free of Federal tax—for the six months ending January 1st and July 1st, 1868, payable on and after the 15th instant; German Savings and Loan Society, recently organized, 9½ per cent. per annum upon ordinary deposits, and 11 2-5 per cent. per annum upon term deposits, payable on and after this date. Pacific Insurance Company, pays 1 per cent. per month for the quarter ending June 30th, payable since the 10th instant, and Union Insurance Company, 1 per cent. for same time and payable same date. From the annual report of the latter company, which was submitted on the 8th instant, we learn that the income for the year was $350,586, including $128,782 for fire risks and $142,866 for marine risks. The disbursements for the same time amounted to $308,323, including $96,954 for fire losses, $99,731 for marine losses, and $45,000 for dividends to stockholders. The cash surplus above capital is $176,937. The amount of risks covered during the year was $20,567,325, of which $12,351,287 was fire and the halance marine. On the 30th of June the risks in force amounted to $11,688,454, of which $10,803,326 was fire. The outstanding risks of both the San Francisco and National Insurance Companies, recently disincorporated, havo hecn transferred to the Liverpool and London and Globo Insurance Company. On and after the 15th instant the Front Street, Mission and Ocean Railroad Co. dishnrse a dividend of 1½ per cent. per month, for the three months ending June 30th, on the amount paid in on the preferred stock. At the close, Pacific Ins. stock sold at $120.

BREAKING GROUND.—Immediately after the oration on the Fourth at Petaluma, the assemhlage repaired to the initiatory point of the Sonoma County Railroad, where the first ground was broken for the construction of said road.

A FARMERS' CLUB has been organized in Santa Clara, and the Alameda *Gazette* reports one of the conversations, the topics of which are quite interesting.

SPECTACLES.—The finest article is to be found at Müller's, 205 Montgomery street, near Bush. Give him a call. *

Corporation Assessment Law.

Frequent calls for copies of the Act governing the levying and collecting of assessments of all incorporated companies in California, has induced us to publish the law.

AN ACT Concerning Assessments upon the Stock of Corporations.

[Approved March 26, 1868.]

The people of the State of California, represented in Senate and Assembly, do enact as follows:

SECTION 1. The Trustees of any corporation, formed under the general laws of this State, shall have power to levy and collect, for the purpose of paying the proper and legal expenses of such corporation, assessments upon the capital stock thereof, in the manner and form and to the extent hereinafter provided, and not otherwise.

SEC. 2. No one assessment shall exceed five per cent. of the stated amount of the capital stock of the corporation, named in the articles of incorporation, and none shall be levied while any portion of any previous assessment shall remain unpaid, or uncollected, except in cases where all the powers of the corporation shall have been exercised in accordance with the terms of this act, for the purpose of collecting such previous assessment, and except, also, the collection of a previous assessment against one or more stockholders, restrained by injunction or otherwise; in which case, further assessment may be levied and collected according to this act.

SEC. 3. No assessment shall be levied except by order of the Board of Trustees, concurred in by a majority of said Board, and entered upon the records of the corporation.

SEC. 4. Every order levying an assessment shall specify the amount thereof and the time when the person or persons to whom and the place or places where the same is payable. It shall also appoint a day subsequent to the full term of publication of the assessment notice on which the stock upon which assessments remain unpaid shall be deemed delinquent, which said day shall not be less than thirty, nor more than sixty days, from the time of the making of the said order levying the assessment, and a day for the sale of delinquent stock, which shall not be less than fifteen, nor more than sixty days from the time appointed for declaring said stock delinquent.

SEC. 5. Upon the making of such an order, the Secretary shall cause to be published immediately a notice thereof in the following form:

"[Name in full.] [Location of works.] Notice is hereby given that at a meeting of the Trustees of said Company, held on the [date], an assessment of [amount] per share was levied upon the capital stock of said Company, payable [when, to whom, and where, particularly]. Any stock upon which said assessment shall remain unpaid on the [day fixed] shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on the [day appointed], to pay the delinquent assessment, together with cost of advertising and expenses of the sale. [Signature of the Secretary, with particular location of office.]"

SEC. 6. Said notice shall be published once each week for four successive weeks in some daily or weekly paper published at the place designated in the articles of corporation as the principal place of business of the corporation, and also in some paper published in the county in which the works of the corporation are situated, if a paper be published therein; *provided*, that if the works of the corporation are not situated within some State or Territory of the United States, then a publication in a paper of the County shall not be necessary; *provided, also*, that if there is no newspaper published at the place designated as the principal place of business of the corporation, then the publication shall be made in the newspaper published nearest thereto; and *provided, also*, that the notice specified in the 5th section of this act may be served by delivering a copy thereof, certified by the Secretary, to each stockholder personally, and in case of such service, upon all the stockholders, of said corporation, then no notice by publication shall be necessary, and such personal notice shall be deemed complete.

SEC. 7. If any portion of the assessment mentioned in said notice shall remain unpaid on the day specified therein for declaring the stock delinquent, the Secretary shall, unless otherwise ordered by the Board of Trustees, cause to be published in the same papers in which the notice provided for in Sec. 5 shall have been published, a notice substantially in the following form:

"[Name in full. Location of works.] *Notice.*—There is delinquent upon the following described stock, on account of assessment levied on the [date,] [and assessments levied previous thereto, if any,] the several amounts set opposite the names of the respective shareholders, as follows: [Names, number of certificate, number of shares, amount.] And in accordance with law, and an order of the Board of Trustees, made on the [date,] [if any such order shall have been made,] so many shares of each parcel of said stock as may be necessary, will be sold at the [particular place,] on the [date] at [the hour] of said day, to pay said delinquent assessments thereon, together with costs of advertising and expenses of the sale. [Name of Secretary, with particular location of office.]

SEC. 8. Said last named notice shall state every certificate of stock with the number of shares which it represents, and the amount due thereon, separately, except where certificates may not have been issued to parties entitled thereto, in which case the number of shares and amount due thereon, together with the fact that the certificates for such shares have not been issued, shall be stated.

SEC. 9. Said notice, when published in a daily or weekly paper, or in both, shall be published as follows: When published in a daily paper, the same shall be published for a period of ten days, excluding Sundays and holidays, previous to the day of sale. When published in a weekly paper, the same shall be published for two weeks previous to the day of sale. The first publication of all delinquent sales shall be at least fifteen days prior to the day of sale.

SEC. 10. By the publication of the said notices, as hereinbefore provided, the corporation shall acquire jurisdiction to sell and convey a full, complete, perfect, and absolute title to all of the stock described in the notice of sale upon which any portion of the assessment or costs of advertising shall remain unpaid at the hour appointed for the sale, but shall sell no more of such stock than is necessary to pay the assessments due and costs of sale.

SEC. 11. On the day and at the place, and as nearly as may be at the hour appointed in the notice of sale, the Secretary, who is hereby fully empowered and authorized, shall, unless otherwise ordered by the Board of Trustees, sell, or cause to be sold at public auction, to the highest bidder for cash, so many shares of each parcel of said described stock as may be necessary to pay the assessment and charges thereon, according to the terms of said notice of sale; *provided*, that if payment be made before the time fixed for sale, the party paying shall only be required to pay the actual cost of advertising.

SEC. 12. The person offering at such sale to pay the assessment and costs for the smallest number of shares, or fraction of a share, shall be deemed the highest bidder.

SEC. 13. If, at the sale of any stock under the foregoing provisions of this Act, no bidder shall offer to take and purchase the same for the amount of the assessments, and costs and charges then due upon the same, then and in such case the same may be purchased and bid in by the company or corporation, through the Secretary or President, or any Director or Trustee thereof, at a sum equal to the amount of the assessments, costs, and charges due upon the same; and in pursuance and by virtue of such purchase, the said assessments, costs and charges, shall be credited, as satisfied and paid in full, on the books of such corporation, and entry of the transfer of such stock to such corporation, in pursuance of such sale and purchase, shall be made on the books of said corporation. While such stock shall remain the property of such corporation, the same shall not be assessable, nor shall any dividends be declared upon the same; but all assessments and dividends shall be apportioned upon and against the other stock of such company not owned by such corporation. All purchases of its own stock made by such corporation, in accordance with the provisions of this section, shall be held valid, and as vesting the legal title to the same in said corporation; and the stock so purchased shall be held subject to the control of the remaining stockholders, who may make such disposition of the same as they may deem fit, in accordance with the by-laws of the corporation, or vote of a majority of all the remaining shares. Whenever any portion of the capital stock of any corporation is held by the said incorporation by purchase as aforesaid, a majority of the remaining shares of stock in said corporation shall be held to be a majority of the shares of the stock in said corporate company for all purposes of election or voting on any question before a stockholder's meeting.

SEC. 14. The times or dates fixed in any notice of assessment or notice of delinquent sale, published according to the provisions of this act, may be once extended for a period of not more than thirty days, by order of the Board of Trustees, duly made and entered on the records of the corporation, but no order for extending the time for the performance of any act specified in any notice shall be effectual unless notice of such extension or postponement be appended to and published with the notice to which [the] order relates.

SEC. 15. No assessment duly levied shall be rendered invalid by a failure to make proper publication of the notices hereinbefore provided for, nor by the non-performance of any act required to be performed in order to enforce the payment of the same, but in case of any substantial error or omission in the course of proceedings for collection, all previous proceedings, except the levying of the assessment, shall be void, and publication shall be begun anew.

SEC. 16. No action shall be sustained to recover any stock, or invalidate the sale of any stock for delinquent assessments, upon the ground of any irregularity in making the assessment, or for any irregularity in or defect of the notice of such sale, or for any defect or irregularity in the sale, unless the party seeking to maintain such action shall first pay or tender to the corporation or the party holding such stock so sold, the sum for which the same was sold, together with all subsequent assessments which may have been paid thereon, and interest on such sums from the time they were paid; and no such action shall be sustained unless the same shall be commenced by the filing of a complaint and the issuance of a summons, thereon within six months after such sale shall have been made.

SEC. 17. "An Act Concerning Assessments upon the Stock of Corporations," approved April 4th, 1864, and all Acts and parts of Acts, inconsistent with the provisions of this Act, are hereby repealed; *provided*, that such repeal shall not affect proceedings commenced for the collection of assessments heretofore levied, but all such assessments may be collected in accordance with the provisions of the laws then in force.

SEC. 18. This Act shall take effect immediately.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE.
Alpha Cons., Storey co., Nev., June 26, $25 July 29—Aug. 24		
Apollo, Lander co., Nev June 15, $10	July 17	Aug. 3*
Adriatic, Storey co., Nev., May 20, $1	June 30	July 15*
Adelia, Sierra co., May 13, $1	June 19	July 20*
Amador Co., dividend, $6 per share	Payable May 7	
Bacon, Storey co., Nev., div	Payable June 19	
Bear River, Nevada co., June 10, $1	July 15	Aug. 3*
Bullion, Storey co, May 25, $10	payable immediately	
Chiplonena, Mexico, July 9, $5	Aug. 13	Aug. 31*
Cherokee Flat R. C., Butte co., July 1, $5	Aug. 4	Aug. 21
Creen Point, dividend, $7.50	Payable July 11	
Chalk Mt., Nevada co., March 16, $1.50	May 12	July 6*
El Tesoro, Mex., June 18, 25c	July 20	August 15
Empire M. & M., Nev., dividend $6.	Payable May 15	
Fogus, Amador co., June 3, $5	July 21	Aug. 12*
Folsom St. & F. Pl. R. R. Co., June 19, $5	July 20	Aug. 8*
Flora Glazier, Plumas co., May 8, 50c	June 23	July 15*
Gold Hill Q. M. & M.—dividend, $7.50	Payable July 13	
Golden Rule, Tuolumne co.,	Annual Meeting July 18	
Gold Hill Tunnel Storey co.	Annual Meeting July 18*	
Globe, Alpine co., May 25, $2	June 30	July 18*
Golden Rule, Tuolumne co., div 50c ₱ sh.	Payable June 26*	
Hope Gravel, Nevada co, June 15, $1	July 23	Aug. 12*
Imperial, Storey co., Nev., div	Payable June 18	
Keniuck, div., $25 per share	Payable July 20	
Kohler Bros., L. C., July 2, $25	Aug. 6	Aug. 27
Kanaka, May 30, 40c	July 3	July 14
La Victoire, Mariposa co.	Meeting July 15	
Lady Bryan, Storey co., May 25, $1	July 6	July 25
North Star, dividend, $5	Payable June 15	
Ophir, Storey co., Nev., June 15, $1	July 20	August 10
Osceola, May 25, 50c	Payable immediately	
Pacific Unassessable, div.	Payable June 18	
Quail Hill, Calaveras co., June 26, $10	July 28	Aug. 17
Rising Star, Idaho Ter., June 23, $50	Aug. 8	Sept 9
Rogers, Storey co., Nev., May 14, $1	June 16	July 6*
Santiago, Silver City, dividend	Payable July 9	
Sage, Virginia, Nev.	Annual Meeting July 16	
Savage, Virginia, Nev, dividend, $15	Payable July 10	
Sierra Genoa, Nevada, June 30, $8	July 30	Aug. 21
Senator, Storey co., Nev., June 9, 10c	July 15	July 31*
Silver Sprout, Inyo co.	Annual Meeting July 11*	
Sand Spring salt, dividend	Payable June 5	
United States, Storey co., Nev., June 29, $1	Aug. 3	Aug 19
Union, Storey co., Nev., June 2, $5	July 7	July 28
Virginia & C. H. Water Co.	Dividend, payable May 15	
Whitman, Lyon co., Nev., May 21, $10	June 24	July 15*
Yellow Jacket, Gold Hill, Nev.	Annual Meeting July 20	
Yosemite, Lander co., Nev., June 9, 75c	July 16	Aug. 5*

*Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD.

FRIDAY EVENING, July 10, 1868.

MISCELLANEOUS STOCKS.	Bid.	Asked.
United States 7 3-10ths Bonds, June issue	$ 74	76
Legal Tender Notes	71¼	71¾
California State Bonds, 7s, 1857	90	95
San Francisco Bonds, 10s, 1851	102	103
San Francisco City Bonds, 6s, 1855	82½	—
San Francisco City and County Bonds, 6s, 1858	80	—
San Francisco City and Co. Sch'l Bds, 7s, 1866	87½	—
San Francisco City and Co. Bonds, 7s, 1865	87	—
San Francisco City and Co. Bonds, 7s, 1864	84	85
San Francisco City and Co. Bonds, 7s, 1865	84	85
San Francisco City and Co. Judg. Bds. 7s, 1865	84	85½
San Francisco City and Co. Judg. Bds, 7s, 1861	82½	85
Sacramento City Bonds	22	25
Sacramento County Bonds, 6s	75	—
Marysville Bonds, 10s	75	85
Stockton City Bonds	70	85
Yuba County Bonds, 10s	75	80
Santa Clara County Bonds, 7s	78	85
Butte County Bonds, 10s, 1860	70	75
San Mateo County Bonds, 7s	—	70
California Steam Navigation Co.	69	71
Spring Valley Water Co	66	67
State Telegraph Co.	23	—
GAS COMPANIES.		
San Francisco Gas Co	75	77
Sacramento Gas Co	80	—
RAILROADS.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	70	—
Central Railroad	50	55
North Beach and Mission Railroad	65	67
Front Street, Mission and Ocean Railroad	11	12
BANKING INSTITUTIONS.		
California, Loan and Savings Society	—	—
Pacific Bank	97½	—
The Bank of California	157	158
INSURANCE COMPANIES.		
Firemans' Fund Insurance Co.	85	86
Pacific Insurance Co.	117	120
San Francisco Insurance Co.	—	100
Merchants' Mutual Marine Insurance Co.	470	481
California Insurance Co.	1300	1400
Union Insurance Co.	88	89
California Home Insurance Co.	—	—
Home Mutual Insurance Co.	19½	20
Occidental Insurance Co.	58	80
National Insurance Co.	—	—
Builders' Insurance Co.	90	—
MINING STOCKS—WASHOE DISTRICT.		
Alpha	47	47½
Baltimore American	—	—
Belcher	175	180
Bullion, O. H.	26	—
Crown Point	88	89
Confidence	35	40
Chollar-Potosi	213	215
Daney	7	7¼
Exchequer	23	24
Empire Mill and Mining Co.	135	150
Gould & Curry	114	115
Gold Hill Quartz	85	90
Hale & Norcross	91	91½
Imperial	123	125
Kentuck	357	363
Lady Bryan	25	26
Ophir	14½	15
Overman	68	69
Savage	158¾	159
Sierra Nevada	26	—
Yellow Jacket	1210	1250
Golden Rule, California	10	—

San Francisco Market Rates.

Wholesale Prices.

FRIDAY, July 10, 1868.

Flour, Extra, ₱ bbl	$6 25	@	7 50
Do. Superfine	5 50	@	6 25
Corn Meal, ₱ 100 lbs	3 00	@	3 50
Wheat, ₱ 100 lbs	1 80	@	2 20
Oats, ₱ 100 lbs	2 15	@	2 35
Barley, ₱ 100 lbs	1 80	@	1 95
Beans, ₱ 100 lbs	8 00	@	10 00
Potatoes, ₱ 100 lbs	75	@	1 50
Hay, ₱ ton	10 00	@	15 00
Live Oak Wood, ₱ cord	9 00	@	10 00
Beef, Cattle, dressed, ₱ lb	8	@	10
Sheep, on foot	3 00	@	3 50
Hogs, on foot, ₱ lb	5	@	7
Hogs, dressed, ₱ lb	8	@	10
GROCERIES, ETC.			
Sugar, crushed, ₱ lb	14¾	@	15
Do. China	10	@	11¾
Coffee, Costa Rica, ₱ lb	15½	@	16
Do. Rio	—	@	17
Tea, Japan, ₱ lb	65	@	85
Do. Green	60	@	1 25
Hawaiian Rice, ₱ lb	—	@	9
China Rice, ₱ lb	6	@	6¾
Coal Oil, ₱ gallon	40	@	45
Candles, ₱ lb	15	@	18
Ranch Butter, ₱ lb	30	@	35
Isthmus Butter, ₱ lb	30	@	32½
Cheese, California, ₱ lb	13	@	15
Eggs, ₱ dozen	35	@	40
Lard, ₱ lb	13	@	15
Hams, ₱ lb	12	@	16
Shoulders, ₱ lb	9	@	10

Retail Prices.

Butter, California, fresh, ₱ lb	35	@	40
do. pickled, ₱ lb	25	@	35
do. Oregon, ₱ lb	15	@	25
do. New York, ₱ lb	35	@	40
Cheese, ₱ lb	20	@	25
Honey, ₱ lb	25	@	30
Eggs, ₱ dozen	45	@	50
Lard, ₱ lb	15	@	17
Hams and Bacon, ₱ lb	23	@	25
Cranberries, ₱ gallon	85	@	1 00
Potatoes, ₱ lb	2	@	3
Potatoes, Sweet, ₱ lb	—	@	—
Tomatoes, ₱ lb	—	@	—
Onions, ₱ lb	—	@	5
Apples, No. 1, ₱ lb	4	@	5
Pears, Table, ₱ lb	5	@	7
Plums, dried, ₱ lb	11	@	13
Peaches, dried, ₱ lb	10	@	11
Oranges, ₱ dozen	50	@	—
Lemons, ₱ dozen	50	@	—
Chickens, apiece	50	@	75
Turkeys, ₱ lb	20	@	25
Soap, Pale and C. O.	7	@	12
Soap, Castile, ₱ lb	15	@	16

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

FRIDAY, July 10, 1868.

IRON.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar, 1@1¼c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1¾@2¼c ₱ lb; Plate, 1¾c ₱ lb; Pipe, 1¾c ₱ lb; Galvanized, 2¾ ₱ lb.

Scotch and English Pig iron ₱ ton	$42 50	@	$45
White Pig ₱ ton	—	@	40 00
Refined Bar, bad assortment ₱ lb	02	@	—
Refined Bar, good assortment, ₱ lb	02¾	@	—
Boiler, No. 1 to 4	03¼	@	—
Plate, No. 5 to 9	03½	@	04
Sheet, No. 10 to 13	03½	@	—
Sheet, No. 14 to 20	04	@	—
Sheet, No. 24 to 27	04	@	—

COPPER.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb

Sheathing, ₱ lb	30	@	32
Sheathing, Yellow	—	@	22
Sheathing, Old Yellow	11	@	—
Bolts	21	@	22
Composition Nails	21	@	22

TIN PLATES.—Duty: 25 ₱ cent. ad valorem.

Plates, Charcoal, IX, ₱ box	12 50	@	13 00
Plates, Charcoal	11 00	@	11 50
Roofing Plates	10 50	@	11 00
Banca Tin, Slabs, ₱ lb	—	@	39

STEEL.—English Cast Steel, ₱ lb — 10 @ 12½

QUICKSILVER.—₱ lb — 55 @ 60

LEAD.—Pig, ₱ lb — 7½ @ —

Sheet	10	@	—
Pipe	11	@	—
Bar	9	@	9½

ZINC.—Sheets, ₱ lb — @ 11

BORAX.—California, ₱ lb —20 @ 23

San Francisco Prices of Copper Ores.

SAN FRANCISCO, July 3, 1868.

We give the following as an approximate price at which copper ores can now be sold in this city. There is no sale for ores which assay less than 12 per cent. The late reduction in price is on account of the advance of freight:

	Per ton.		Per ton.
12 per cent. ore	$16 00	22 per cent. ore	$43 56
13 " "	18 82	23 " "	46 45
14 " "	20 20	24 " "	49 33
15 " "	23 35	25 " "	52 22
16 " "	26 23	26 " "	55 11
17 " "	29 12	27 " "	58 00
18 " "	29 91	28 " "	60 80
19 " "	34 90	29 " "	63 77
20 " "	37 78	30 " "	66 66
21 " "	40 67	31 " "	69 55

These prices, we believe, will be found substantially correct, and can be realized at this date.

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County.

Markleeville *Miner*, June 27th: Timber and lumber for the Monitor mill, are assuming shape, and the buildings will in a few weeks be ready to receive the machinery, much of which is now on the ground.

Mr. Thompson has commenced work on the Pittsburg mill, recently purchased for the Pittsburg Co., preparatory to setting the stamps in motion on quartz now accumulating up the cañon.

Mr. Begon, the gentleman connected with the Rivot process, left for Nevada County Thursday morning, taking with him samples of 50 and 100 lbs. each from the Tarshish, I. X. L., Morning Star, Lady Franklin, Leviathan, Buckeye No. 2, Congress, Balaklava and Pennsylvania, which he will thoroughly test by this process and report progress here.

The Pittsburg Co. this week have had a survey of their I. X. L. lode, to determine whether a certain extension is on it or not. The mine is improving at all points.

The workmen on the Globe tunnel were this week taken from the old works and started on the new.

Chronicle, June 27th: Quite a body of water has been struck this week in the Rippon tunnel.

J. A. Thompson has taken possession of the Whiteside mill, lately purchased by the Pittsburg Co. It will be run on I. X. L. ore. Hereafter the mill will be known as the Pittsburg mill.

Calaveras County.

Chronicle, July 4th: A San Andreas correspondent writes that the great need of that locality is a custom mill, so that miners may test the quality of their ore at reasonable rates.

Kern County.

Havilah *Courier*, June 27th: J. C. Birdseye has purchased two-fifths of the Esperanza mine, near Sageland.

From a run on 25 tons of rock from the Delphi mine, the sum of $2,000 was cleaned up.

From Long Tom we have the following items: On every hand we hear of the success of prospectors in exploring our county, and of the prosperity of those who engage in developing the mines and working the mills. The Gould & Curry mine at that place is worked by Joseph Woodworth. For some time past he has put means into operation to develop the mine, and has thoroughly tested the ore, and from the product of the mill, which has been working for some time, all are fully convinced that it pays exceedingly well. The mine yields great quantities of rich ore. The gold is confined principally to the sulphurets, which is the proto-sulphuret of iron, and is worth $125 to the ton. There is also present the bi-sulphuret, but it does not yield much gold, the proto-sulphuret being altogether the most valuable.

Los Angeles County.

Los Angeles *Star*, July 4th: Miners are at work now on the Temescal tin mines, in order to test as to the existense of ore, its quality, quantity, etc. Should the result prove satisfactory, capital will be invested to work the mines in a thorough manner.

Nevada County.

Transcript, July 2d: Frank Fisher has just finished an 8-stamp mill for Palmer & Everingham, and it will be shipped to Enreka to-day. The old engine and machinery have been remodeled and fitted up, so that it is as good as new.

July 7th: The ditch property and mining claims at Little York, known as the Gardner property, was yesterday sold to Atkins, Cozzens and Squire for $30,000. This property is extensive and valuable for the gold it contains.

Last Monday, at the North Star mine, the richest body of rock ever taken out was found. The quartz was full of free gold, and must have yielded enormously.

Gazette, July 2d: We saw at J. J. Ott's assay office yesterday a bar of gold weighing 286 ounces, and worth $5,000. It was melted by Charles Dunn, of Ott's assay office.

July 6th: Kinder & White, on Bear River, above Lowell Hill, are running a tunnel for the purpose of putting off a blast of 200 kegs of powder.

Grass Valley *National*, June 29th: About 30 loads of rock from the Dromedary mine, on Echo Hill, are being crushed at the Gold Hill mill. It will average from $30 to $50 per load.

July 3d: Ben. McCauley's mill turned out yesterday $5,120 from 160 loads of rock from the Idaho. This is exclusive of the sulphurets, and gives an average of $32 per ton.

Grass Valley *Union*, June 30th: Yesterday the first clean up of the Mutual Gold Mining Co's mill was brought to town, and after melting turned out a nice little bar of gold, weighing 175 ounces. The Mutual's claims are on the Jim ledge, of the Graniteville district. This crushing comes from 160 tons of rock, and the cost of taking out, milling and all other expenses, will not amount to over $5 per ton, which leaves a handsome profit to the owners of the mine.

The American Mining Co., on Manzanita Hill, near North San Juan, are still buying up the ground in their vicinity, for mining purposes.

The North Star Co., at the French Lead, is still going down, and as they descend are striking it richer than ever. Yesterday about $2,000 in rich specimen rock were taken out of the sixth level, west, and it is expected that more of the same sort will be raised to the surface within a day or two.

On the Greenhorn ledge, 300 tons of poor rock are now on top of the ground, and a company has leased the ledge, preparatory to putting a mill upon it. Yesterday a crushing of ten loads of the rock from the top, which has been on the surface for two or three years, was made at Laton's mill in this place, which resulted in $12 per ton.

July 1st: The mill at the Empire is now running day and night on splendid rock. The mine shows well, the smallest part of the ledge being two feet in thickness, and in the bottom of the shaft is three feet. The sixth level is going into the Rush & Laton ground, 550 feet south of the new incline. This gives good ground for 1,000 feet in length and 160 feet deep, and also gives an additional 55 feet down for another level. The Empire will, from this on, run night and day, with the increased facilities for taking out ore.

July 4th: The Mutual Mining Co., of this place, engaged in working the Jim ledge at Eureka, have just completed a contract for working their mine—the contractors agreeing to mine and mill the quartz at $5 per ton.

EXCELSIOR.—*Transcript*, July 8th: Mr. Figniere, recently from Meadow Lake, gives us the following items from that locality: Several companies are preparing for work, and by the middle of the mouth a number of mines will be in operation. The snow now is an advantage to miners, as it facilitates travel and hauling from point to point.

A company was organized on the 12th of January, to work the Independence ledge, and work was commenced immediately. After going down with a shaft 80 feet, they found a well-defined ledge seven feet wide. The rock is of a dark, rusty appearance, and sparkles with flakes of pure gold. It is said to be the most promising prospect ever obtained in the district.

The Enterprise Co. commenced work on Monday last. This company has built two furnaces, one for the purpose of roasting rock, and the other for treating sulphurets. This ore has yielded immense assays, but the ore has proved refractory, and they have not succeeded by the ordinary mill process in making it pay. Should the treatment now about being tested prove a success, the mine will come out all right.

The Green Emigrant Co. is taking out first-rate rock, which is to be crushed at the California mill. The ledge is about six feet wide and the rock is easily obtained. The last crushing paid from $25 to $30 per ton in free gold.

The Empire Co. are also at work, taking out fine looking specimen rock from the shaft, which is 30 feet down. They will soon have a crushing at the California mill.

The Lake Co. has a ledge 3½ feet wide, and the rock assays $349 in gold and $11 in silver. They have an incline 30 ft. deep, and only waiting for water to go down to resume work.

The Grant Co. have a fine ledge and first grade rock. The ledge has been worked more than any other company in the District, except the Mohawk. They will build a large mill this summer.

The prospects in the District were never better, even in the days of greatest excitement, and the miners are confident that it will prove a fine quartz region.

Placer County.

Auburn *Herald*, July 4th: The mining excitement in this vicinity is about as usual. The Rising Sun Co. continues to clean up weekly, with its 5-stamp mill—the yield last week being $2,500. The Montana Co. are at work, and upon the completion of the drift from their shaft, they are confident of striking it big. A number of other companies are also at work, and a recent discovery by Mike Curley is believed to be very rich. It is the opinion that a proper development of these mines will give us as good a mining district as there is in the State.

Plumas County.

Quincy *National*, June 26th: A correspondent writing from Poorman's Creek, gives us the following items from that locality: The Washington Hill boys are doing well. The American Co., of 12 men, are making from $7 to $8 per day to the hand, with plenty of ground to work. Bill Black, in the Washington claims, joining the American Co., is also doing well and making money....Sawpit Flat will be a lively camp this spring, as all expect good pay as soon as they finish washing up their winter's dirt. One interest sold in the Buckeye tunnel, a few days ago, for $3,800. ....I saw an assay that was had at Marysville, of some quartz from Poormans' which assayed $49 per ton.

Sierra County.

Downieville *Messenger*, July 4th: The Docile mill has again been started on very rich rock....The owners of the Bush Creek mine are erecting a mill 90 by 40 feet, with a capacity of 30 stamps. The frame is up, and being enclosed as rapidly as possible. The shaft is down about 230 feet, and the richest kind of rock is found in the bottom. They will start with 10 stamps and increase them as occasion demands....Nicholas Berets, owner of the Kearsarge ledge, an extension of the Union, at Alleghany, is going forward on it, with every indication of having an excellent mine.

The owners of the Union quartz claim are taking out very rich rock, and have already started their mill. If the run is satisfactory, they will immediately erect steam hoisting works.

Mr. Gardner has sold a one-half interest in the Johnson claim, near the Docile, for $8,000. The ledge has been prospected for about 400 feet, and discloses the richest kind of rock.

Manson & Co., of the Downieville Foundry, have taken a contract to build an 8-stamp quartz mill for the French Co's ledge, on Wolf Creek. This ledge is believed to be very rich.

Last week rock was struck in the Phoenix claims above Sierra City, which paid $1 to the pound.

The editor having visited Goodyear's Bar, states that the miners engaged in the river diggings are doing remarkably well, considering the high stage of water in the stream. The Chinese Co's claim has been paying well during the past two months, and a large tract of rich ground still remains to be worked. The treasure leads along the side of the creek are in process of development. The claims at Cox's Bar are paying well as usual.

The Hunter Quartz Ledge, below Alleghany, has a tunnel into the ledge, tapping it 150 feet below the surface. The ledge is only from one to three feet wide, but is rich in free gold and sulphurets. The company are now running on the ledge each way from the tunnel.

Siskiyou County.

Yreka *Union*, June 20th; Mr. Klimper, of the South Fork of Humbug, took out of his claim last week, for one man drifting, $120. In this there was one piece weighing 3½ ozs.

N. Lash has just made a run of 100 tons of quartz from the Eliza ledge. The yield is a little over $15 to the ton. The quartz is not so rich as some taken from other ledges, but the ledge is five or six ft. in thickness, while the ledges that have yielded the richer quartz are not over that many inches. We understand that remarkably fine rock is being taken, at present, from the Knapp ledge, owned by Lash, Laner & Co. Laner showed us some pieces of quartz taken from the ledge where it is being worked at present—about 200 ft. below the surface—which literally glittered with gold. The rock heretofore taken from this ledge has averaged over $50 to the ton, and that being taken out now has the appearance of being vastly richer than any taken out before. The prospects now are, that Humbug, in a few years, will be one of the richest and most prosperous quartz districts in the State.

Sacramento County.

Bee, July 7th: The Dozier Metallurgical Co. have filed their articles of incorporation. Capital stock, from $100,000 to $150,000.

Tulare County.

Visalia *Delta*, July 1st; Business in this mining district is quite brisk. Several ledges hitherto supposed to be of no value have proved rich. The Long Tom Co. have opened their mine at a point north of the old shaft. The lead develops fine and pays well. Messrs. Bell & Co. also are taking out rich ore.

Journal, July 4th: Henry Potter & Co. have finally found an ounce a day to the hand in their claims on Egan's Bar, half a mile below Junction City.

Jacob Hager and Fred. Haas, present owners of the Fegan claims, at Junction City, have purchased of Jeremiah Dacy the mining claims adjoining their property, and the right to all the water heretofore claimed by him.

Tuolumne County.

Sonora *Democrat*, July 4th: The Knox and Boyle mine at Quartz Mountain is paying well. The rock will average $30 per ton, and is easily mined. The last run of 57 tons paid over 100 ozs.

A few days ago, Mr. John Mooney showed us a very rich specimen of rock from his mine on the south end of Whiskey Hill, near Jamestown.

We recently paid a visit to App's mill, and found Mr. App, one of the proprietors, cleaning up some amalgam. He informed us that the mill has been running for the last 11 years. The rock is hauled from the mine at Quartz Mountain, a mile distant. The rock pays from $20 to $25 per ton, but Mr. App says that they cannot save more than half of the gold. The tailings, after being oxidized by a year's exposure to the sun and air, pays better than the rock at the first crushing; $16 per ton is the average yield of them, but the great trouble is that there is no place to save them at the mill.

Work is going on at Kincaid's Flat tunnel with great regularity. They will tap the Flat nearly 40 ft. deeper than any of the miners have yet reached. The dirt at the deepest point is found to be very rich.

Yuba County.

Marysville *Appeal*, July 1st: The Board of Trustees of the Pennsylvania Co. have decided to borrow the sum of $8,000, and mortgage their property, for the purpose of paying off their hands and getting rid at once of their indebtedness. This will leave the company sufficient time to take out this amount from their mine, or to raise it by small assessments.

ARIZONA.

Prescott *Miner*, June 13th: The rock now being taken out of the Chase mine looks well. The mill is running.

The Enreka 10-stamp mill, Walker's district, has been rented by Henry W. Fleury, of this place, and men are now engaged in putting it in running order.

Work on the silver ledges in the new district east of the Hassayampa, between Wickenburg and Walnut Grove, is progressing, and the lodes are looking well.

A prospecting party left Prescott one day last week, for the Hacquihala Mountains They intend to be gone about three weeks.

COLORADO.

Herald, June 17th: F. H. Conant is running six stamps of the Holman mill on ore from the Bates, and six stamps on ore from the Adaline lode....Mr. Fitzpatrick's new 12-stamper was started up on Monday last. It is one of the finest running mills in the Territory....The shipments from the Central City Banks this week are as follows: Warren Hussey & Co., $11,500; George T. Clark & Co., $11,375; Rocky Mountain National Bank, $11,500....Write & Co.'s claim, South Clear Creek, turned out 51 ozs. of gold last week....The Smith & Parmelee Gold Mining Co. shipped 128½ ozs. of gold this week. Valuable improvements have recently been made in the mine. ....We saw a lot of beautiful gulch gold at Warren Hussey & Co.'s this morning, which weighs 43 ozs., and was taken from Pleasant Valley by Owens & Queen. They have about as much more to clean up now.

Charles Havens, of Black Hawk, is raising a very fine appearing quality of ore from his silver mine, Mountain House District. It looks well and prospects very rich....Peter Rhu's arastra, at Enreka, is running night and day. The results, thus far, have been satisfactory. It is being run on surface quartz and mill tailings....Prof. Dibben is making arrangements for working his mines in East Argentine.....John Winders & Co. have put a string of sluices into Shot Gun Gulch, and have commenced ground sluicing....Mr. Jonson, of Black Hawk, is running the Cullison water mill, Missouri City, on surface quartz from a lode in Lake District, with very flattering results. ....E. R. Moss and Lem. Bradley have lately made the discovery of a new lode on Running Lode Mountain, Enterprise District. They have reached a depth of 30 ft., and have a fine vein of ore in sight.... Enos K. Baxter has resumed work on the Wilbur lode, north of the Adaline. He has reached a depth of 100 feet, and is raising a very nice lot of ore....The Wright mill, 18 stamps, Nevada Gulch, is being run by Hunt & Leighton. At present they are running one battery, on ore from the Golden Eagle lode, Lake Gulch District. The other two batteries are being run on ore from a lode at the head of Nevada Gulch.

Central City *Register*, June 18th: Miller & Co., working on the Bates-Hunter lode, have had 2½ cords crushed in a stamp mill, which yielded them 47 ounces of bullion, and sold for $940.... We saw at Idaho, a few days ago, three pounds of very clean gold, taken out the past week in that vicinity. Wright, Clenfield & Co. cleaned up 24 ozs. from four days work, by six men.... Hobbs & Needham's claim, on Grass Valley Bar, is looking well and prospects fair.... Wright, Clenfield & Co. are making big pay—took out over six ounces on Tuesday forenoon....Jere Lee & Co. are getting some pay, and their claim is gradually improving....Joe. Kenyon will resume operations in his reduction works below Black Hawk, next week....The gold shipments yesterday were $35,000 currency value. ....Work on Uncle Hurd's mill is progressing finely....Hueneden, Walters & Co., shipped yesterday by Wells, Fargo & Co., to H. Amy & Co., of New York, two bars, viz.: Bar No. 83, out of Terrible and Sonora ore, $473.54 in coin. Weight, 605.40 ounces. Bar No. 85, out of Equator ore, $431.95 in coin. Weight, 475.25 ounces. Bar No. 84, weighing 64.85 ounces, coin value; $50.19 was custom work out of 1,500 pounds of Democrat ore.

The Oro City correspondent of the Denver *News*, gives the following items from the Arkansas mine: Long & Hemp are putting up a new hydraulic in Iowa gulch, and will be ready for work by the 15th of this month.

Burt & Co. hope to be well at work by the 20th.

Caruth & Hilton have just cleaned up—one of the finest of the season.

Ingersoll & Lambkin are at work in Tennessee Gulch, as are Barnard & Studt, in Buckeye Gulch.

No work has been done in Evans Gulch this season.

A large amount of prospecting is being done for lodes, for the most part near the head of California Gulch, and the success attending it is wonderful.

DACOTAH.

Sweetwater Mines, June 17th: While recently in Roberts' Gulch, we saw Mr. Roberts prospect a pan of dirt taken out from among the grass roots in the gulch, which gave between 20 and 25 beautiful colors.

P. A. Gallagher left yesterday for Salt Lake City, carrying $15,000 in gold dust, the proceeds of our much abused placer claims. This makes over $20,000 shipped this week, and yet but few claims have so far been opened.

Frank McGovern gives us the following items from Spring Gulch: At the lower claim with one sluice worked by three men they took out on the 6th inst., $96, on the 9th, $122, and on the 10th, $128. At the upper claim working a "Tom," with one man shoveling and one tending sluice, they have averaged $40 a day, right along.

Near the Mineral Star ledge, in Mill district, a company headed by Lewis Lund, have commenced operations in good earnest. They have turned the creek, and with one sluice box, have, in one half hour's work, taken out enough to justify them in believing they have $25 a day diggings.

IDAHO.

Owyhee *Avalanche*, June 20th: Jim Allison has struck good hill diggings below Boonville, in the vicinity of Blue Gulch. A good paying prospect is found in the gravel three ft. from the bedrock. We believe that rich placer diggings will be found hereabouts in localities that, as yet, people have never thought of prospecting.

It is reported that rich placer diggings have recently been struck two miles below Wagontown.

Boise *World*, July 1st: We have the following items from Deadwood Basin: There are now employed in the Basin about 130 miners, and the diggings yield from good wages to very rich pay. Water holds out better than the miners expected it would, and has afforded them a longer season of labor than was anticipated....The Dutch Co. claims have paid exceedingly rich—fully $100 per day—during the season, but want of water has caused temporary suspension of the work.

The claims taken in the Payette River promise to yield richly. In a month or two it is expected the river will be sufficiently low to commence mining in it. A good deal of prospecting has lately been performed along Bummer Creek, which courses through the center of the Basin. The ground prospects well all the way, and in no instance has the bed rock yet been reached. The average richness of the ground and the unusual depth of these new diggings, give bright promise of very excellent mining in all the claims in this locality.

The quartz ledge discovered some weeks ago in the Basin continues to prospect better and richer as it is worked. A shaft of 20 feet is sunk into the ledge, and the rock reveals much wealth of gold all the way down. A good amount of this rich ore is now waiting the rude crushing process which the owners can at present apply, but the rock will pay at that.

MONTANA.

Helena *Post*, June 10th: Young & Bivins in the Little Prickly Pear bottom have sunk their shaft 40 ft. and find a color of gold throughout the greater portion of it.

We yesterday saw in the First National Bank building, three bars of gold weighing respectively 404 ozs., 351 ozs. and 66 ozs., the total value of which was $24,606 in gold coin, or nearly $35,000 in currency.

Keating & Co., at Jefferson Gulch, are making, regularly, one ounce per day to the man. The last clean up of Darah, Harris & Co. was 50 ozs. A new gulch, supposed to pay well, has been struck on Willow Creek.

Work will be suspended on the Whitlatch Union lode for a few days while steam pumps are being put in the mine. The quantity of water now in the mine necessitates the introduction of pumps.

Thus far the Yellowstone party have failed to accomplish the object of the expedition. It is supposed that they will make a new start soon.

The new diggings at Crow Creek are said to be fully as good as at first reported.

H. Clark & Co., at Norwegian Gulch, are running a bedrock flume and ground sluicing near the cañon. Alexander & Co. have completed their drain ditch and are doing well, making from $8 to $15 a day to the hand. David Hopkins, John Wynant & Co. have 1,500 ft. of flume completed and are making from $10 to $18 a day to the hand. Vanderbilt, Glasgow, McArthur & Co. are running a drain ditch and expect to have it completed in about two weeks. The claim of Cagee & Co. is paying well. On last Thursday they cleaned up $68 and took out a $20 nugget. On Friday they cleaned up $96, an $8.50 nugget being included. On Saturday their clean up was $114, with a $25 nugget. The gulches tributary to Norwegian and lying in the vicinity are paying well. Oro Fino Gulch, on North Willow Creek, is paying an ounce per day to the hand. A new gulch was discovered week before last on South Willow Creek, which, it is supposed will give good results.

New and rich quartz discoveries are reported on the Georgetown side of the Cable Mountain and within 1¼ miles of the Cable lead.

At Wilson Creek water is plenty. Seven claims have been staked for discovery, 36 claims above discovery and 56 below. Prospects have been obtained from one to 25 cents to the pan....New diggings have been found between this place and Prickly Pear at a point about two miles below discovery. ....A new flume to replace Hillis' flume, which was recently washed away, is being built at Diamond City at a cost of over $1,500....The ditch which drained the celebrated rich claims in Confederate Gulch is believed to have become entirely filled up, so that a new drain will have to be dug. ....A small dry gulch, called Granite Gulch, and said to be quite rich, has been discovered in the vicinity of the Gold Creek diggings....The hydraulic claim of McChord & Co. at Red Mountain City is yielding at the rate of $1,000 per day....Considerable work on hills and bars is being done at Indian Creek with good results.... Prof. Swallow's quartz mill is now on its way to Highland.....The Snow Shoe mines are yielding better than was expected in the early spring. A narrow channel was recently struck, which bids fair to prove rich. Eight companies are at work there.

NEVADA.

Esmeralda.

Aurora *Union*, June 27th: The Baldwin Mining district, on the western shore of Walker Lake, has been attracting considerable notice among our citizens of late, and returned prospectors report very favorable. Dr. Mason says that there is no foolishness about the richness of the ore, only as the Jew said about the money: "it is very good, only there is not enough of it." Some parties from Virginia are building a furnace and burning charcoal, and manifest confidence in the mines.

Humboldt.

Unionville *Register*, June 27th: On Friday, Gov. Fall commenced hauling ore to the new mill, and intends to pile up a large quantity preparatory to doing an extensive business as soon as the mill commences work....Fall & Co. shipped this week per Wells, Fargo & Co's Express, 2,100 ozs. of fine bullion....During the early part of this week, the miners on the Monroe struck into a deposit or pocket of ore that shows at least $60,000 in gold. This being outside of, and independent of, the legitimate streak of pay ore, makes it a property of great value....The Arizona mine is improving both in size and richness every foot that that is gained upon it in depth. It is strong five feet wide, and pays $100 to the ton from wall to wall without roasting. The new mill will start up next week....We are informed that James Hendra has made a handsome strike in the Do Soto mine, Star district.

From the same, July 4th: The reports from Battle Mountain are more encouraging than at first. The Little Giant ledge has not been over estimated, either in point of richness or quantity of ore. The owners have contracted to haul 30 tons of ore to the Negus mill, which is confidently expected to pay $200 to the ton. A correspondent writes: The last ore we worked from the Little Giant ledge paid $192 per ton. We have at the mill 22 tons that will pay equally as well, if not $50 per ton more. We are taking out ore steadily, but will not send any more so far to mill, as we expect Atchison to have his mill running within sixty days. Arrangements have been made with McBeth and Fox for a divided portion of the Little Giant Co's ground. E. J. Elzy has made arrangements with McBeth, Melander and Minor, for 300 feet on the south end of the Santa Clara Co's claim, on the Little Giant ledge, and will go to work immediately. The Monitor and Troy Co's are making preparations to commence work on the same ledge. Within 30 days there will be five companies at work on the Little Giant....Some very fine and valuable strikes have been made within the last ten days in the Cumberland and Register locations, in Gold Run district. On these two claims work is being prosecuted most vigorously. The first south Goleonda is looking very fine. The proceeds of the Goleonda mine, or rather of the mill, amount to from 250 to 300 pounds of bullion per week, of the value of from $10 to $13 per pound. ....The Arizona mine is developing extensive deposits of ore every day. The new mill will be at work next week, when Kyle & Co., who got the contract to haul ore, will have to move lively in order to keep the two mills running.

Reese River.

Austin *Reveille*, June 20th: Lundbom assayed yesterday a piece of ore from the Eberhardt South, in the district of White Pine, which gave the yield of $17,123 per ton. He smelted 2½ ozs. of the same ore, which yielded one and one-fifth ozs. of pure silver, or about 46 per cent

June 24th: In the level which has been run from the incline in the Belmont Co's claim on the El Dorado ledge, Silver Bend district, a body of rich sulphuret ore two ft. thick has been developed. The level is only 30 ft. below the surface. In the Arizona, which is believed to be an extension of the El Dorado, the developments continue to be good; and in the south incline of Antonio Borques' claim, at the depth of 50 ft., a rich stratum nearly two ft. thick has been disclosed near the hanging wall. A fair quantity of the ore had been brought to the surface, the estimate yield of which is high. L. Martin is working the claim known as the Vulcan and Arizona Consolidated with fine results, and is taking out considerable quantities of good ore for the mill. A claim called the Soila, lying between the Independence and the Arizona, and belonging to A. Borques, is also producing excellent milling ore. The Combination mill in working custom ore has produced the most beneficial results.

The Buckeye mine, in Summit Cañon, produces ore of fine quality. We were shown this morning a certificate of assay by Boalt & Stetefeldt of the pulp of 16 tons of the ore which have just been reduced at the Mettacom mill, the yield of which was $257.68 per ton. A former lot yielded nearly the same result.

June 26th: The mill of the Twin River Co. at Ophir Cañon, which was stopped several days for repairs, will be opened again after the Fourth. Workmen are sinking the incline shaft of the Murphy mine in order to open a level; and the mine is said to look remarkably well.

June 27th: To-day 83¼ ozs. of gold from Goose Creek were deposited in the office of Boalt & Stetefeldt, which, after melting, was worth $12.73 per oz.

June 29th: The amount of bullion produced by the Manhattan mill for the week ending the 27th inst., is 22,548 ozs.

A lot of 50 tons of ore from a mine in the Cortez district has been taken to the Mettacom mill for reduction, the yield of which will average unusually high.

July 1st: To-day 3 8-10ths lbs. of ore from the Keystone claim in the district of White Pine were deposited at the office of Boalt & Stetefeldt for assay and smelting, the yield of which is remarkable. The assay value of the pulp per ton is $10,747, or at the rate of $5.37 per pound; total value of the silver in the pulp, $20.41. The pulp was smelted without the addition of lead, and required only a flux to reduce the gangue, and it yielded a bar of silver .845 fine, and of the value of $18.07.

During the month of June there were shipped from the office of Wells, Fargo & Co. in this city, 234 bars of bullion, weighing 17,765 lbs., and valued at $253,207.42.

Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Virginia *Enterprise*, July 2d: The total amount of bullion shipped from the office of Wells, Fargo & Co. in Gold Hill, during the month of June, was $505,523.05.

The total amount of bullion shipped from this city and Gold Hill during the past week was 14,516 pounds, worth $386,875.52, being an increase over the shipment of the previous week of 2,554 pounds and $98,996.77.

The mines in the new Truckee district are again attracting attention. These mines were deserted at the time the Meadow Lake excitement broke out, and little has been done with them since. An assay, which was made day before yesterday at E. Ruhling & Co's Gold Hill assay office, of an average specimen of argentiferous galena, from the Imperial Consolidated mine, yielded in silver at the rate of $169.80 per ton.

Gold Hill *News*, June 30th: There was shipped from Wells, Fargo & Co's office this morning, 18 sacks of bullion, weighing 1,438 pounds, and of the assayed value of $38,865.50.

An assessment of $25 per share is levied on the capital stock of the Alpha.

July 3d: There was shipped from Wells, Fargo & Co's Gold Hill office this morning 26 sacks of bullion, weighing 2,100 pounds, and of the assayed value of $52,061.13.

NEW MEXICO.

A correspondent writes to the Santa Fe (N. M.) *Gazette*, of June 20th, concerning the Cimarron mines as follows: A new era will commence for these mines when water is introduced in sufficient quantities. There are miles of ground, known to be rich in gold, which now lay idle for want of water, which will then yield untold amounts of the precious metal. The hight to which the water is to be carried is almost incredible, and the area that can be watered from it, about 25 square miles, all gold-producing, enough to employ thousands of men for a generation. The claims of the Colorado Co. and Waller & Co. average $1,000 per week; O'Brien's, $700, and other claims, the names of which I do not now recollect, the same. On the 30th of May I bought from the Leavenworth Co. 44¼ ounces of gold, the result of one week's work for five men; yet this company only get water to work their sluices every alternate night and every second Sunday....A discovery of a quartz lead has been made within the last few days, some miles east of here, on Ute Creek. The discoverers' names are Robert Doherty, a soldier discharged from Captain Thayer's Company of California Volunteers, and Tim. Foley. They describe the lead about six feet wide, and say it can be traced for over 2,000 feet on the ground. Doherty showed me a specimen of the quartz. It is certainly the richest specimen I ever saw.

Denver *News*, June 10th: We have seen samples of copper ore from the Cimarron, richer than the copper mat made at the Mountain Smelting Works—looks just like it, same color and texture, and full of globules of metallic copper, probably 75 per cent. copper.

OREGON.

Jacksonville *Sentinel*, June 20th: Muller, of the firm of Muller & Brentano, has purchased the Ballou lead; consideration not given.

The last run of rock crushed at the Occidental, from the Ballou lead, yielded $11.50 per ton. There is plenty of rock in sight, and the indications are that it will increase in richness.

June 27th: Fox, Patty & Co., who were running a tunnel in the hill facing Allen's Gulch, in Josephine County, send us word that they have struck the channel and with it rich pay, there being a very large bed of gravel, which prospects three bits to the pan.

Salem *Record*, June 25th: The Salmon party, who have been working the Santiam quartz mines, have at last become discouraged, and "thrown up the sponge." They could only average $3 per ton, and $5 was the least amount that would pay for working it. [The community seems to be greatly disgusted with the entire operation, especially those whose funds have been used to develop those "curious" spiral auriferous formations.—Eds. Press.]

Mining and Scientific Press.

W. B. EWER.....SENIOR EDITOR.

C. W. M. SMITH. W. B. EWER. A. T. DEWEY.

DEWEY & CO., Publishers.

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WRITERS should be cautious about addressing correspondence relating to the business or interests of a firm to an individual member thereof, whose absence at the time might cause delay.

Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866

Dr. L. G. Yates is our duly authorized traveling agent. July 6, 1867.

Mr. A. B. Butler is a duly authorized traveling agent for this paper. July 15, 1867.

San Francisco:
Saturday Morning, July 11, 1868

Notices to Correspondents.

A FRIEND OF EDUCATION, in a lengthy epistle, dwelling largely on the subject of the future conduct of our State University, calls attention to an appropriate passage from the celebrated Lord Bacon, which he trusts will be kept in view by the Regents, as applicable to the selection of the various Professors, and especially the President, in order that such views may be carefully impressed on the students. "He who would come duly prepared, and fitted to the business of interpretation, must neither be a follower of novelty, custom, nor antiquity; nor indulge himself in a liberty of contradicting, nor servilely follow authority. He must be neither hasty in affirming, nor loose and skeptical in doubting; but raise up particulars to the place assigned them by their degree of evidence and proof. His hope must encourage him to labor, and not to rest; he must not judge of things by their uncommon nature, their difficulty or their high character, but by their just weight and use. He must in his own particular, carry on his view with concealment, and yet have a due regard for posterity. He must prudently observe the first entrance of errors into truths, and of truths into errors, without despising or admiring anything. He must understand his own talents and abilities, or the advantages of his own nature. He must comply with the nature of others. He must, as with one eye, survey the nature of things, and have the other turned towards human uses. He must distinctly understand the mixed nature of words, which is extremely capable of both prejudicing and assisting. He must lay it down to himself, that the art of discovering will grow up and improve along with discoveries themselves. He must not be vain either in delivering or concealing the knowledge he has acquired; but ingenuous and prudent, and communicate his inventions without pride or ill-nature; and this in a strong and lively manner, well defended against the injuries of time, and fit for the propagation of knowledge, without occasioning errors; and which is the principal thing of all, it must be such as may select and choose for itself a prepared and suitable reader."

A CURIOUS MINERAL has been received from a gentleman whose name we neglected to obtain, said to be found in Napa County, about three miles west of St. Helena, and to occur in a regular vein of some four feet in width, inclosed between walls of sandstone. This mineral very much resembles shorl, and is somewhat identified, in its physical aspect, with spheno or pitch blende; but does not exactly assimilate with any of the minerals named. The mineral may possibly be new, but a correct conclusion can be arrived at only by a complete analysis. We shall hold it for further examination.

COMMUNICATION from our traveling correspondent, "B," received, and will appear next week. Box of specimens also received.

THE NEW PRODUCE EXCHANGE, in Hayward's building, on California street, was opened with appropriate ceremonies on Monday last. The necessity for such a convenience has long been felt in this city, where the produce business is forming such a large portion of our trade.

The Projected Darien Ship Canal.

A correspondent asks if there is anything now in progress with regard to the Darien Canal project; and what has been done since the survey undertaken in 1853, by the Atlantic and Pacific Junction Company, assisted by the British, French and American vessels-of war. Thinking that this matter might be of sufficient general interest to warrant a more extended answer to queries in our columns of "Notices to Correspondents," we here append a brief resume of this important work.

What was a few years ago considered the mere dream of mere enthusiasts, is now more than probable. The result of recent explorations renders it very likely that there are now living those who will see the richly laden ships from the Indies pass across the Isthmus of Darien on their way to the ports of Eastern North America and Western Europe. The idea of a ship canal across this isthmus has been entertained almost from the earliest settlement of America; it was favorably spoken of by Humboldt in his early travels on this continent, and by almost every engineer who has ever closely examined into its practicability.

The Isthmus itself presents no serious obstacles to engineering skill; nearly the whole extent of numerous passes between the two oceans is made up of hills and plains. The highest point where the railroad crosses is only 280 feet above the level of the sea, and the earth from nearly all the excavations required for a canal would be needed in constructing embankments across swamps and other lowlands. Careful observations made by Col. Totten, at the two termini of the railroad, have shown that there is no material variation of average levels between the two oceans—the observations show that the mean level of the Pacific is only 0.449th of a foot higher than the Atlantic. The only appreciable variation is the difference in time of high and low tides on the opposite shores. That is simply a regular oscillation—sometimes the one and sometimes the other ocean being the higher, except at mid-tide, when both are on a level. The few locks which would be required for a canal would effectually prevent any inconvenience from such a cause. The tides on the Pacific are much higher than that on the Atlantic; the average of the former being about thirteen feet, while those of the latter are a little short of one and a half feet. The constancy of the water upon the Atlantic is probably due to the local configuration of the coast; possibly the diurnal motion of the earth may have something to do with it.

No less than *nineteen* routes for canals, and seven for railroads, have been proposed, by any of which it is thought the Isthmus may be crossed. The latest governmental action in the matter was the passage of a resolution introduced into Congress by Mr. Conness, on the 10th of March, 1866, calling for information, through the Superintendent of the National Observatory at Washington, to be furnished the Secretary of the Navy, with regard to the "various lines for inter-oceanic canals and railroads between the Atlantic and Pacific oceans, especially as to the advantages of a ship canal." This action calls for all the information which had been collected on this subject up to that time. The information was given in a very full report by Admiral Davis, communicated to the Secretary of the Navy on the 12th of July following. This report gives a very full history of the explorations which had been made for crossing from the Atlantic to the Pacific by canals or railroads, and was accompanied by a series of maps, on the first of which each of the nineteen canal and seven railroad routes were distinctly laid down. This number includes the proposed routes across Tehauntepec, Honduras, Nicaragua and Panama, as well as across the Isthmus of Darien.

The report, keeping in view the prime object of the investigation—the practicability of a *ship canal*,—discusses but a few of these routes, further than is necessary to show their unfitness for the end in view. "It is to the Isthmus of Darien," says the report, "that we are to look for the solution of the great problem of an inter-oceanic canal. * * * On this Isthmus there are three routes which have never received the attention they merit: first, from the Chepo river to San Blas, or Mandorilla Bay; second, from the Gulf of San Miguel to the southern portion of the Gulf of Darien, or close to some point on the lower part of the Atrato." The first is but thirty miles across, but calls for a tunnel seven miles long. The second has spacious harbors on each side, but the information with regard to it is considered of a very doubtful nature. The third, which appears to be in part connected with the second, is favorably referred to, and efforts, we believe, were undertaken as late as February, 1867, under the auspices of Senator Sprague, of Rhode Island, to secure a reconnoissance of it, with the aid of a national vessel.

The Congress of New Grenada, in the latter part of 1866, passed an Act fixing the terms of a contract for a canal, to be offered to the public in London, and to be assigned to the highest bidder. We are not aware whether any special attempt has been made to take advantage of this offer. It is hardly supposable that the weak resources of this government will hold her back from any tempting offer which any responsible party might make for constructing this proposed work.

The above statements, we believe, fully answer the queries of our correspondent; yet the question is one of great magnitude, and deserving of still further consideration, which we propose to give at our earliest leisure.

OUR NEW MINISTER TO CHINA, J. Ross BROWNE, late Commissioner of Mining Statistics, arrived in this city on Friday last, from New York. He will sail for China the third of August, in the new steamer Japan, which has just arrived to take her place in that line. Mr. Browne, though inexperienced in diplomatic ways, has nevertheless traveled sufficiently, and is sufficiently well informed generally, to readily make himself at home in any sphere. As a resident of California, he has made her needs and resources an especial study for two or three years past, and is therefore all the better fitted to represent this government in a country with which the citizens of the Pacific Coast are more intimately connected than with any other foreign power. Being a gentleman of large cosmopolitan experience, thoroughly imbued with the modern spirit of material progress, and having never been wedded to any of the political isms of the day, he is precisely the man to represent us at a court which is just awakening out of a Rip Van Winkle sleep of ages, and which needs the advice of some active go-ahead Young America to lead it forward and introduce it to the family of nations. That Mr. Browne will fully discharge the responsible duties which are about to devolve upon him, there can be no doubt. He goes to his post under the most favorable auspices, and carries with him the hearty good wishes of the people most intimately connected with the objects of his mission.

STEAM TO CALISTOGA.—The railroad from Suscol to Calistoga was opened, the entire distance, the past week. Passengers can now leave this city at three o'clock P. M., and arrive at Calistoga the same evening—thirty-eight miles by steamer and thirty-one by railroad. The through fare, as now established, is $5.50. This popular place of resort will be henceforth more sought for than ever before.

The Coming Fair.

Calls for space in the Pavilion still continue to be received by the Committee, and the demand exceeds the most sanguine expectations of the managers. Applications have been made for space outside of the building for windmills, etc. In the meantime, work in the construction of the pavilion is progressing most satisfactorily. As the structure gradually assumes its proper shape, much gratification is expressed by all parties with regard to its appearance, and to the convenience which it will afford exhibitors. We understand that the bills for material and construction, thus far, renders it certain that the entire cost will fall considerably below the lowest bid offered for its construction by contract—$31,500. Hence, the Directors will make a handsome saving to the Institute in voluntarily taking upon themselves the superintendence of the structure by days' work. It should be borne in mind that the highest ruling wages is paid, and eight hours labor, only, required for a day's work.

From present indications the exhibit of woolen and other manufactured goods will surprise even the most sanguine. The display which will be made in this line will be most astonishing for a city which, less than twenty years ago, consisted of merely a few hamlets, situated on the sea shore, at a point one of the most remote from civilization to be found on the globe.

Among the novelties not yet announced will be the exhibit of Messrs. Faulkner & Son, who have concluded to place in the pavilion one of their type-manufacturing machines. This will be a most interesting novelty to nearly every visitor at the Fair. The same firm will also enter one of their home-made hand presses, manufactured for them at the Golden Gate Foundry in this city.

A glass engine will also be exhibited, having glass boilers for making steam for the same. The dimensions of the cylinder of this engine will be two and a half inches by nine inches stroke. An exhibit of the curious action of steam in the usually hidden recesses of the boiler, steam-pipes and cylinder, will be both interesting and instructive.

Several of the "privileges" connected with the exhibition have been let. The soda privilege has been let to E. H. Willis & Co.; the cider privilege to C. W. Weston, of the Pacific Fruit Market. Some enterprising restaurant keeper might make a good thing by securing the restaurant privilege, offers for which are still open.

LABOR EXCHANGE.—During the month of June, 1,670 orders for laborers were received by the Secretary of the Labor Exchange, as follows: House carpenters, 187; farm hands, 193; laborers, 392; wood choppers, 75; blacksmiths, 40; boys, 39; bricklayers, 42; cabinet makers, 27; canvassers, 24; cooks, 63; lumbermen, 72; milkers, 34; miners, 53; house painters, 27; teamsters, 52; men and wives, 19; shoemakers, 11; wheelwrights, 12; clerks, 8; miscellaneous, 306. The orders filled during the month were only 1,238; showing a deficiency of laborers, of the kind wanted, to the extent of 432. Of the number employed, 324 were married, 914 single; 293 were American born, the balance foreign.

CAPT. WILLIAM HAYNIE, of Sacramento, is now feeding about a million of silkworms, and the *Bee* says he will sell from 800 to 1,000 ounces of eggs, most of which will go to Europe, where the California eggs are in great demand, as superior to the silkworm eggs of any other quarter of the globe.

THE PACIFIC ROLLING MILLS, at Potrero Point, are about ready to go into full operation. A portion of the rolls were started up the first of the present week, and we presume the entire works will be in full blast in a few days.

Improvements at the South End.

There seems to be considerable activity at the present time along the water front near the foot of Third street. This locality can no longer be called "South Beach;" it may be temporarily known as the "South End," until the growth of the city shall place it so near the center of business that we shall have to go still farther southward to find the South *End*. The "Beach" that, until within two or three years, has extended from near the marine hospital for nearly a mile around Rincon Point to Mission Bay, has now entirely disappeared, and not a vestige of it remains; its name has even disappeared from the street cars which were formerly known as the North and South Beach Cars. This entire beach is now covered with extensive wharves, piers, docks, warehouses, manufacturing establishments, and an innumerable number of less portentious structures. Such a wonderful transformation, in so short a period, is rarely met with in the growth of any city.

New branches of industry are constantly being started in this neighborhood, and enterprises already undertaken are largely increasing their facilities for business.

THE PACIFIC OIL WORKS

are putting up an additional building, larger than their present structure, which, when completed, will give them about three times the space they now occupy. This, we understand, has become necessary to meet the increasing demands of business. The new structure will be fitted up with machinery, which will be especially occupied in the manufacture of castor oil. The demand for linseed oil from this establishment calls for the constant occupation of their present machinery. It is pleasant to notice such evidences of prosperity in the inception of any of our manufacturing enterprises, and especially in one so intimately connected with the agricultural industry of the State.

NEW SAW AND PLANING MILLS.

The increasing demand for such articles used in building as can be prepared by the aid of machinery or at a saw and planing mill, is leading to the rapid multiplication of such establishments in different parts of the city. In addition to those heretofore noticed in this journal, another has recently been erected on Brannan street, between Third and Fourth, 40x120 feet on the ground, and three stories high. An addition is now being built to this, having a 20-foot front and the same depth.

Still another, and, if we are not mistaken, the largest in the city, is now being erected near Long Bridge, and extending from Berry to King streets. The buildings of this establishment cover an area of 200x240 feet, and are nearly ready for occupation. Workmen are already engaged in setting up portions of the machinery. The works will be driven by a Hicks' engine of 120-horse power, built at the Miners' Foundry. The principal structures are of wood; but the boilers and engine, which occupy the central portion of the area, are placed in a fire-proof building, so arranged that they will hardly be able to communicate fire to the balance of the works, or be liable to any serious injury should the surrounding works be destroyed by the devouring element. The boiler and engine will cost from thirty-five to forty thousand dollars. The success of this enterprise is already fully assured by extensive advance orders for windows, sash, doors, etc., which cannot be supplied at the establishments now in operation. Messrs. Metcalf & Bros. are the projectors and proprietors of these works.

THE SAMUELS WOOD PRESERVING COMPANY.

These extensive works, which we have already noticed as in progress, are located near by, but just beyond the planing mills. They occupy a lot outside of the Long Bridge and fronting upon that structure, near its crossing of Fourth street. This location gives them free access to an unobstructed water front, and abundance of room for handling any amount of material. The works were already for starting yesterday.

Impressions by Heat and Electricity.

Karsten obtained very distinct impressions by the action of heat in different ways. He placed a medal upon a glass plate, and submitted both to a gradually increasing heat, in a common stove, for a few minutes. When the plate was cooled, it generally showed a distinct impression of the medal, on being breathed upon. A similar trial with smooth metallic plates did not yield similar results. He found that when a medal was moderately heated over a flame and then brought in momentary contact with a polished metallic plate, a beautiful impression appeared, which could be fixed by the fumes of iodine or mercury. The best impressions were obtained when the medals were not burnished, or were slightly oxidized by contact with the atmosphere. In such cases good impressions were at once visible, without the application of fumes of any description.

IMPRESSIONS PRODUCED BY ELECTRICITY.

Electrical figures, which have been termed by a German chemist, Dr. Riess, electrical hauchfigaren (figures produced by breathing) have been obtained upon metallic plates in the following manner: A coin is placed upon a metallic plate properly supported, but not insulated. Sparks from an electrical machine are caused to strike upon the coin. After 100 turns of an electrical machine with a 20-inch disk, the plate shows no impression until breathed upon, when a most perfect and beautiful impression of the coin, in its most minute details, is distinctly seen, and beautifully variegated with iridiscent colors. Similar, but less distinctly defined impressions, are obtained by the use of the galvanic battery.

When these phenomena were first observed, various speculations were indulged in with regard to the manner in which impressions were fixed, and to what they were due. The discovery having no practical value, we presume it has pretty much passen out of miad; at least we have never seen the phenomena accounted for.

In reading over the account of these experiments, which were first made known by Karsten, some twelve years ago, in Poggendorff's Annals of Chemistry, it has occurred to us that the impressions are due to the transference of portions of the metallic substance of the coins to the glass, by the electric or galvanic currents.

It is well known that a powerful galvanic current, such as is employed in the production of the electric light, in passing over carbon points, carries with it minute portions of carbon. If a metallic plate is properly presented to the current, these particles of carbon (at least a portion of them) may be collected on the plate, in the form of beautiful crystals of carbon, possessing a diamond-like hardness. In fact the carbon is converted into black diamond, which may be employed in place of diamond dust wherewith to cut the precious diamonds. These crystals adhere to the metallic plate with much tenacity. In the production of the impressions above alluded to, why may we not reasonably suppose that the flow of under surface of the coin, carried with it portions of the metal and fixed it firmly upon the plate upon which the coin rested in the same electricity, passing from any point of the manner as the carbon is known to be carried over in the case cited? The extremo thinness of the covering film would naturally be brought out more distinctly by being "breathed upon," or by being subjected to the developing action of the fumes of iodine.

WILLAMETTE UNIVERSITY.—We have received the annual announcement of the Department of Medicine from this university for 1868-9. The third course of lectures of this institution will commence on the 4th day of November next, and continue four months. This is now a permanent and promising institution.

RAPID MAIL COMMUNICATION.—Our fellow citizen, Professor Rowlandson, being desirous of obtaining an early copy of the ninth volume of the transactions of the Royal Geological Society of Cornwall, which has been promised some time, recently wrote to the President of that body with the object of ascertaining when and where the same might be obtained. On the 6th instant he received a reply, dated June 10th, and bearing the Penzance post-mark of that date, and the London one of the 11th, from which city it must have been transmitted to Liverpool. The distance from Penzance to London is between 300 and 400 miles; from London to Liverpool upwards of 200,—or say a total of 600 miles of land carriage in England,—from whence to New York, something more than 2,000 miles of ocean travel had to be traversed; thence from New York to San Francisco 3,000 miles of land conveyance had to be made,—the whole distance of 5,600 miles being accomplished,—including stoppages at London, Liverpool and New York,—within tweaty-six days, or at an average rate of about ten miles per hour for the entire distance, including stoppages.

The reply of the Secretary of the Royal Cornwall Geological Society contains a paragraph to the effect that memoirs on the gold of Brazil, ou the silver of Chili, on the native copper of Lake Superior, and on the sulphur ores of Ireland, will speedily be published. This fact will probably interest some of our readers.

Agents in Colorado.

CENTRAL CITY.—Messrs. Richards & Crane, of the City Book Store, Main street, will act as our agents.

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PERSONAL.—Wanted, by friends in England, information of Andrew Jackson Van Winkle and Peter W. Van Winkle. Address this office. 1v17-3m

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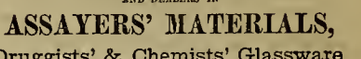
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San Francisco March 6, 1865. 11v16-tf

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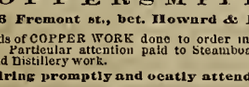
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13v12 E. M. HARTSHORNE, President.

HOME MANUFACTURED HOSE.—Numerous trials have been made, within the past two years, to determine the best quality of hose for the use of the fire department of this city. Eastern-made hose has been repeatedly tested by the side of California-made, at times with varying success; but more recently with uniform results in favor of the California-made article. Experiments have also been made with three-ply rubber hose; which, after three months trial, has been utterly condemned, although coming highly recommeuded. This description of hose, although it stood the pressure of 300 pounds to the inch when new, has been found to yield to 80 pounds pressure when six months old. California hose is pronounced far more durable, and as cheap, or cheaper. Chief Engineer Whitney gives it as his opinion, after years of experience, that single-riveted hose is more durable, cheaper and more advantageous than double-riveted. The hose should always be greased on the inside, because the pressure, when the hose is attached to either an engine or a hydrant, causes the oil to penetrate through the leather to the outer surface; while if greased upon the outside, it does not penetrate to any extent in tho act of greasing, or by laying; while, when the pressure comes, it is at once thrown entirely off from the leather, and does but little good. The superiority of California leather is mainly attributable to the excellence of the California oak for tanning purposes. Mr. John J. Fulton and Mr. M. M. Cook, we believe, are the only manufacturers of California hose; and we are pleased to record the fact that the work of each is considered superior to that from the East. There is no longer any necessity to go East for our fire hose.

THE WESTERN MOUNDS TO BE EXPLORED AND MAPPED.—Several of the Eastern scientific associations have united in the undertaking to have the ancient mounds throughout the West, thoroughly and systematically explored. Dr. W. De Hass, a gentleman who has already made the relics of a past age a careful study, has been appointed to take charge of this exploration. He is now on the ground engaged in preliminary operations. This important work has been delayed altogether too long. Thousands of these structures have already been destroyed, and the hand of improvement is constantly invading those which remain. The Doctor will map and measure those which remain, excavate such as may promise to reward such an examination, and publish the results in a large, superbly illustrated volume. He is satisfied that populous communities occupied, in pre-historic times, the vast alluvial regions and adjacent bluffs, where these mounds exist. The finely drawn theories ascribing them to fluviatile action, locss, etc., will probably be dissipated by these scientific explorations.

A MINIATURE LOCOMOTIVE.—A young machinist in Detroit, Mich., has made a locomotive engine and tender complete, about four feet in length, and weighing only 300 pounds. Attached are head light, bell, whistle, and every part to be found in a regular locomotive engine. It can be run with fifteen pounds of steam, though as high as thirty pounds can be put on if necessary. The boiler has thirteen flues. The maker has refused $2,500 for it.

THE PRAIRIE DOG.—Among his observation on the prairie, a writer says that the prairie dog has a very destructive enemy in the lynx, or American wild-cat. This quick and fierce animal hides in the grass in the outskirts of the dog-town, and pounces upon an unlucky dog that starts out to forage, and carries him off before he can whisk his funny little tail.

RAILWAY TRAFFIC OF CHICAGO.—No less than seventy-eight railway trains depart from and enter Chicago daily.

METEORS AND COMETS.—Professor Pepper, in his Lenten Lectures on "physical astronomy," at the London Royal Polytechnic, stated that fourteen years ago Dr. Bedford discovered the relation between meteor and comet, and announced their actual identity; that at the time, and long since, it was regarded as mere theory; but within the last two years astronomers have proved the truth of Dr. Bedford's discovery, which was made by a careful comparison of recorded phenomena from the earliest times. The Professor said that it had been proved by five mathematical elements of the orbits of five several comets and meteors, and that the discovery is regarded as one of the grandest additions to astronomical science; and stated that Dr. Bedford has propounded entirely new theories of astronomy, which are most profound and very interesting, and well worthy of being studied.

MINERALS IN MISSOURI.—Lead is found in more than 500 localities in Missouri. The veins run through twenty counties, and are spread over an area of about 6,000 square miles. The ore averages seventy-five per cent. of pure lead. Copper has been found in fifteen counties. Zinc is also very abundant. Little attention is, however, paid to either lead or zinc. We hear nothing of late of the tin mines. Iron, mostly specular, abounds in inexhaustible quantities, averaging about fifty per cent. pure iron, of a very superior quality. Coal has been found underlying thirty counties, reaching an aggregate area of about 27,000 acres, with a mean thickness of eight feet.

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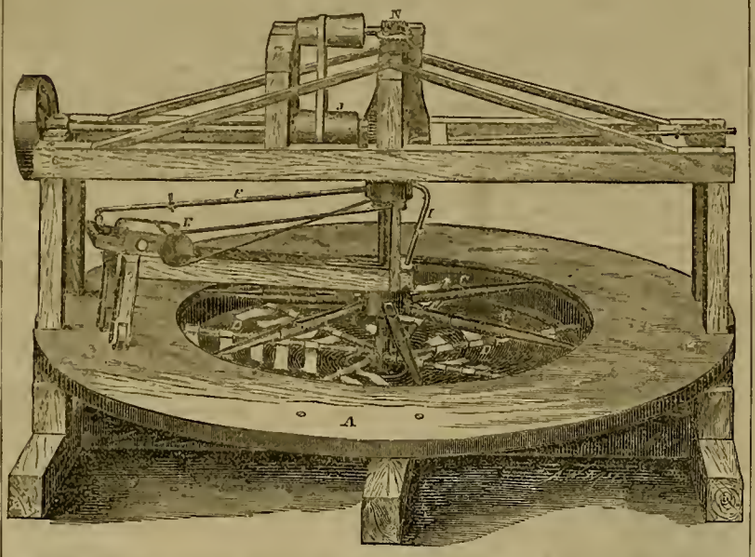
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Our publication of the DAILY PRESS, in the Pavilion in 1864 and 1865, met with marked success, rendering ample satisfaction to its patrons and numerous visitors attending the Fairs. We are now confident that, with improved facilities, experience, and active efforts, the present volume will be made still more attractive and useful for the increased thousands who will visit the Exhibition, and receive, gratitously, each issue

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Particular attention will be given to preparing engravings, inserting advertisements in conspicuous, novel and attractive form; we will otherwise assist advertisers in getting up their notices, when desired.

Notices of the Press:

Following are a few of the many compliments paid the previous volumes of the DAILY FAIR PRESS:

THE SCIENTIFIC PRESS proprietors strike off and give away thousands of their little sheet, entitled THE MECHANICS' FAIR DAILY PRESS. There were great crowds all the evening about the telegraph and the presses, many of whom had their first sight at the practical working of these great motors of civilization.—*S. F. Evening Bulletin, Sept.* 7, 1864.

SCIENTIFIC PRESS.—A printing office has been established at the Mechanics' Fair, and Messrs. DEWEY & Co., the enterprising publishers of the MINING AND SCIENTIFIC PRESS, are issuing from it a handsome double-sheet daily, which is a credit to themselves, its editors, and to the Fair.—*S. F. Morning Call, Sept.* 8, 1864.

THE MECHANICS' FAIR DAILY PRESS is the title of a very neat quarto paper published at the Industrial Fair Pavilion, by DEWEY & Co., of the MINING AND SCIENTIFIC PRESS. It reflects great credit, as does the weekly, upon the enterprise and ability of the publishers. We want it regularly.—*Reese River Reveille.*

Parties who intend to advertise will do well to subscribe at once for the amount of space wanted.

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Publishers of the MINING AND SCIENTIFIC PRESS, Patent Agents, Book and Job Printers, corner of Clay and Sansome streets, San Francisco.

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Doors and Window-Blinds or Shutters,

BURGLAR-PROOF

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HAT MANUFACTURER

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Hats and Caps

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Corner of D and Second streets.....Marysville.
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Our wholesale House, 628 Commercial street, extending through to 637 Clay street, San Francisco, contains always a most choice, and the largest, assortment in this State. Every Steamer brings the latest issued novelties from Europe and New York, which can be found at all the above stores, at moderate prices. 23v16-3m

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MANUFACTURER OF

Cocoanut Matting, Rugs, Mats, Etc.

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BY A PROCESS ENTIRELY NEW, THE PROPRIETOR is now manufacturing in quantity sufficient to supply the demands of the trade, A NEW AND SUPERIOR MATERIAL FROM THE FIBER OF THE COCOANUT—the best substitute for curled hair hitherto discovered—for mattresses, chairs, lounges, and all upholstering purposes. The following are some of the advantages which it possesses over all other materials used for the above named purpose:

1st. It is cheaper, all things considered, than most articles in use.

2d. It is the best and purest material known in the market, being entirely free from all offensive smell.

3d. It is the most durable, not being subject to rot after years of exposure to moisture and dampness.

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Lastly. It does not pack; is free from dust; much lighter, and in general obviates all the objections to pulu, prepared shavings, soap root, and other inferior substitutes for feathers and hair. 22v16tu

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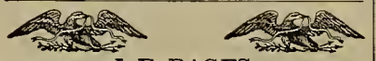
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Black Diamond, in 1lb canisters.
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For a warranted cure of

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All Nervous and Chronic Diseases in general, and affliction of the EYES AND EARS.

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☞ Electrometers are forwarded to patients residing in the country. 17v16-3m

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Examiner of Mineral Ledges, Mines and Mining Machinery; Drawings given, and Manufacture supervised, for Pumping, Hoisting, Crushing, Separating and Reducing Appliances, by Steam, Water, Fire, and Chemicals, throughout manipulations.

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On the **6th, 14th, 22d** and **30th** of every month.

Steamer leaving San Francisco on the 6th touches at Manzanillo. All touch at Acapulco.

Departure of the 14th is expected to connect with the French Trans-atlantic Co's steamer for St. Nazaire, and English steamer for South America. Through tickets can be obtained.

Departure of 14th is expected to connect with English steamer for Southampton and South America, and Australia, and P. R. R. Co's steamer for Central America. Through tickets can be obtained.

STEAMERS FOR JULY, 1868.

The following Steamships will be dispatched on dates as given below:

July 6th—MONTANA.....Capt. J. M. Cavarly, Connecting with HENRY CHAUNCEY, Capt. Gray.

July 14th—CONSTITUTION.....Capt. C. C. Comstock, Connecting with OCEAN QUEEN, Capt. King.

July 22d—GOLDEN CITY..... Capt. Wm. F. Lapidgo, Connecting with RISING STAR, Capt. Conner.

July 30th—GOLDEN AGE.....Capt. E. S. Farnsworth, Connecting with ARIZONA, Capt. Maury.

Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult.

An experienced Surgeon on board. Medicine and attendance free.

These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.

Through Tickets for Liverpool by the Canard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—if desired an amount of £10 to £20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England.

The Steamship NEW YORK, Capt. C. M. Faunilcroy, will be dispatched on FRIDAY, July 3d, at 12 o'clock, noon, from wharf, corner of First and Brannan streets, for YOKOHAMA, to connect with the GREAT REPUBLIC for HONGKONG, and COSTA RICA for SHANGHAI.

For Merchandise and Freight for New York and way ports, apply to Messrs. WELLS, FARGO & CO.

For passage and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets.

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SURE CURE.

I PROMISE TO CURE RHEUMATISM, NEURALGIA, Gout in the Feet or Ankles, Dyspepsia, Piles, Mange, Bone Felon, and all kinds of Sores, in men or animals, and no matter of how long standing. Also, Heart Disease, Sore Eyes, Sore Throat, Scrofula, Salt Rheum, and all Skin Diseases. Secret Diseases of all kinds cured. DR. JAMES BROWN, No 340 Broadway, between Sansome and Montgomery streets, San Francisco.

☞ I also promise to cure horses sprung in the knees. Remedies sent by mail. 6v16-3m

To the North of Salt Lake.—It is now pretty definitely determined that the main line of the Central Pacific Railroad will pass to the north of Salt Lake, distant from the city some thirty-five miles, but with which it will be connected by a branch road. The company is putting forth most extraordinary exertions in pushing ahead the work of construction. Had it not been for the early and heavy fall of snow, the cars would now have been running to the Humboldt river, instead of only to Wadsworth, where the cars are to arrive to-day, July 11th. Great difficulty has also been experienced in getting iron; two of the rolling mills at the East on which the company depended for iron having recently been destroyed by fire. Iron, however, is now being conveyed across the Isthmus at great expense, to make up for what has been unavoidable delays. About three miles of track are now being laid daily. All this haste is being made to reach Salt Lake ahead of the Union road, and thereby secure the valuable trade of that region for the benefit of California. The people of this State can well afford a small extra tax, in the way of high fares, for a little while, so long as the money so obtained is being devoted to such a desirable object.

Election of Officers.—Imperial S. M. Co.—Trustees: A. Hayward, W. M. Bourn, John Barton, A. P. Stanford, W. H. Sharp, H. F. Cutter, and J. E. de la Montagnic; President, W. B. Bourn; Vice President, W. H. Sharp; Secretary, D. A. Jennings; Superintendent, J. D. Greentree.

Overman G. & S. M. Co.—Trustees: J. E. de la Montagnic, John Sime, John Johnson, James Paul and Peter Duncan; President, J. E. de la Montagnic; Secretary, T. J. Owens.

Roamaise Mining Co.—Trustees: W. Burling, J. W. Burling, H. D. Bacon; President, W. Burling; Secretary, H. D. Bacon.

New Incorporations.—Articles of incorporation have been recently filed in the County Clerk's office in this city as follows:

Point Lobos Avenue Association.—San Francisco, July 8th. Capital stock, $50,375; 155 shares, $325 each. Trustees, A. Mills, J. R. Farrish, Henry Mahan, J. W. Nye, C. Railsback, Henry M. Rosekrans, P. H. Blake.

Files Made and Re-cut.—We understand that it is the intention of Mr. Durning, of the Pacific File Works, 53 Beale street, to send East for steel suitable for the manufacture of files, and to go hereafter more extensively into this line of the business. Foundrymen, machinists, blacksmiths, millmen, and all others using files, will find it to their interest to save their old files, and have them re-cut at a saving of nearly fifty per cent.

The Women's Coöperative Union gives employment to a considerable number of sewing women in the city, thereby becoming, to a certain extent, a handmaid to the Labor Exchange. All kinds of furnishing goods are made up and sold at the store, No. 39 Second street, opposite Jessie. Every dollar invested in goods or stock is well expended.

The Wheat Crop.—Most flattering reports with regard to the wheat crop are coming in from all parts of the State. The amount planted seems to be fully one-third larger than ever before, while the yield will be much more per acre than it was last year. In the fields of Santa Clara the berry is larger and more plump than it was last year, and the yield in that county will be nearly double what it was last harvest.

Gold Discoveries in Colorado.—The telegraph of Tuesday says that astonishingly rich discoverics of gold have recently been made in the Cimarron mining region, in southwestern Colorado. New discoveries are being made daily. The news comes via Washington.

Woodward's Gardens, always a charming spot, is particularly attractive at this season of the year. All, old or young, will find much in the way of both amusement and instruction. The entrance is now on Fourteenth street, between Mission and Valencia.

New Mining Advertisements.

Chipiloncna Mining Company—District of Cres, Sonora, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the ninth day of July, 1868, an assessment of five ($5) dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirteenth day of August, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirty first day of August, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees

JOHN F. LOHSE, Secretary

Office, 318 California street, up-stairs, San Francisco. jy11

Mining Notices—Continued.

Adelaide Gold and Silver Mining Company, Flowery District, Storey County, Nevada.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the twentieth day of May, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificates.	No. Shares.	Amount.
M J Newmark	507	20	$80 00
Daniel Meyer	98	5	20 00
Daniel Meyer	251	35	35 00
N Ludwig	114	10	10 00
Thomas S Russel	199	10	10 00
Estate of Henry Dreschfeld	362	176	176 00
Estate of Henry Dreschfeld	254	25	25 00
Estate of Henry Dreschfeld	393	5	5 00
Estate of Henry Dreschfeld	427	61	61 00
Estate of Henry Dreschfeld	466	50	50 00
Edward Cohn	450	25	25 00
J L Schroeder	428	75	75 00
L Rosenbaum	503	221	222 00
H Schmidt	492	5	5 00
H Schmidt	493	5	5 00
H Schmidt	494	10	10 00
J J Robbins	489	10	10 00
J J Robbins	491	10	10 00
J J Robbins	505	5	5 00
J S Burgess	512	15	15 00
J S Burgess	513	50	50 00
M Waterman	509	30	30 00
Chas Hirschfeld	5 1	50	50 00
R W Kind	440	5	5 00
R W Kind	441	10	10 00
R W Kind	479	10	10 00
Jos Adelsdorfer	224	15	15 00
B Gattel	352	10	10 00
B Dattel	359	10	10 00
B Gattel	360	10	10 00
B Gattle	538	10	10 00

And in accordance with law, and an order of the Board of Trustees, made on the twentieth day of May, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on the sixteenth day of July, 1868, at the hour of 11 o'clock A. M. of said day, for cash, in U. S. gold coin, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

PAUL NEUMANN, Secretary.

Office, No. 411 California street. jy4

Apollo Gold and Silver Mining Company, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifteenth day of June, 1868, an assessment of ten dollars per share was levied upon the capital stock of said Company, payable immediately, in United States Currency, to the Secretary, 228 Clay street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the seventeenth day of July, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the third day of August, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

D. B. CROWE, Secretary.

Office, No. 228 Clay street San Francisco. je20

Adelia Gold Mining Company, Rock Creek, Sierra County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the thirteenth day of May, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Adelia Baldwin	bal 5	795	$795 00
D O Stevens	24	12	12 00
D O Stevens	25	408	408 00
G W Walker	bal 20	275	275 00
J B Behrens	bal 26	75	75 00

And in accordance with law, and an order of the Board of Trustees, made on the thirteenth day of May, 1868, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the salerooms of Messrs. Olney & Co, 426 Montgomery street, San Francisco, on the sixth day of July, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. BUFFINGTON, Secretary.

Office, Room 37 New Merchants' Exchange, California street, San Francisco. je20

Postponement.—The above sale is hereby postponed until Monday, the twentieth day of July, 1868, at the same hour and place. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary.

By D. O. Stevens, Secretary pro tem

San Francisco, July 6, 1868. jy11

Bear River Mining Company, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the tenth day of June, 1868, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the fifteenth day of July, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the third (3d) day of August, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary.

Office, Room 37 New Merchants' Exchange, California street, San Francisco. je13

Changing the Address.—No charge is made for changing the address of this paper. To give all necessary information, write as plainly as follows: "Change address of the *Mining and Scientific Press* from Mr. ... at .... P. O., ... County, ... State, to Mr. .... at .... P. O. .... County, ... State..... 186–"

Eclipse Gold and Silver Mining Company, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifteenth (15th) day of June, 1868, an assessment of ten dollars per share was levied upon the capital stock of said Company, payable immediately, in United States Currency, to the Secretary, 228 Clay street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the seventeenth (17th) day of July, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the third day of August, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees

J. A. DRINKHOUSE, Secretary.

Office, 228 Clay street. jy29

Fogus Mill and Mining Company.—Location of Works: Amador County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the third day of June 1868, an assessment of five dollars ($5) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, No. 318 Front street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eleventh day of July, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twenty-eighth day of July, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN J. SCOTCHLER, Secretary.

Office, No. 318 Front street, San Francisco, Cal. je6

Postponement.—The day for deeming stock delinquent on the above assessment is hereby postponed until Tuesday, the twenty-first day of July, 1868, and the sale thereof until Wednesday, the twelfth day of August, 1868. By order of the Board of Trustees.

jy11 JOHN J. SCOTCHLER, Secretary.

Folsom Street and Fort Point Railroad and Tunnel Company, San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of June, 1868, an assessment of five dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to Caleb T. Fay, at the office of the Company, Room No. 16 Stevenson Block, on the southwest corner of Montgomery and California streets, San Francisco, Cal.

Any shares of stock upon which said assessment shall remain unpaid on the twentieth day of July, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the eighth day of August, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOS. M. WOOD, Secretary.

Office, Room No. 16 southwest corner of Montgomery and California streets. ju27

The Flora Glazier Quartz Mining Company Location of Works: Plumas County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the eighth day of May, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Augustine, M	9	200	$100 00
Arnold, D E	181, 182	50	25 00
Bigli, A	5	750	375 00
Brown, Wm	38, 39	25	12 50
Burrell & Knapp	10	100	50 00
Blood, James A	3	1000	500 00
Bannon, Edward	24, 33, 152, 168	225	112 50
Blumb, Wm	43	51	25 00
Bradley, J C	110	25	12 50
Bendel, Herman	36, 144	15	7 50
Bourne, Geo J	40	50	25 00
Crosley, Jno W	39	20	10 00
Chambers, R C	44, 45	100	50 00
Cate, D R	81, 82	150	75 00
Cohn, D	127	15	7 50
Dratliman, Wm F	37, 163	15	7 50
Deane, Michael	153	12	6 00
Fowler, G B	17	100	50 00
Fernald, J S	72	50	25 00
Glazier, Isaac	143, 144, 145, 146	250	125 00
Glazier, Simon W	2	1000	500 00
Gilman, Wm A	111	50	25 00
Grindley, Geo W	115	60	30 00
Hochstadter & Bro	21	500	250 00
Harrgraves, —	70	500	250 00
Holzner, Herman	142	5	2 50
Haviland, D B	27, 28	20	10 00
Hochstadter, S & A	129, 130, 131 132, 133, 134, 135	100	50 00
Klein, W	114	44	20 00
Lute, Nicholas	63	240	100 00
Loranze, Geo W	136	50	25 00
Loran e, Julia E	137	50	25 00
Marcuse, M	121, 122, 123, 124 125, 126, 128	365	182 50
McPherson, A W	157	500	250 00
North, George	41	50	25 00
Nilson, Hermann T	183	10	5 00
Osden, R L	31	500	250 00
Ogden, Frederick	80	50	25 00
Peters, Julius	78, 79	75	37 50
Palmer, S L	22	250	125 00
Palmer, W D	23	25	12 50
Rupert, S D	109	25	12 50
Pollak, John	23, 25, 154	25	12 50
Peters, George	77	25	12 50
Reily, John Henry	102	50	25 00
Rudman, John	148, 168, 169, 170 171, 172, 173, 174, 175, 176, 177, 178	550	275 00
Robinson, Chas F	149	25	12 50
Richie, John A	not issued	240	120 00
Springer, Mrs S C	61	50	25 00
Springer, E D	69	50	25 00
Shiloh, G W	71	100	50 00
Smith, W D	89	100	50 00
Semper, Samu l F	138, 139, 140, 141	20	10 00
Smith, Charles	158, 159	38	19 00
Shwartz, A	166	50	25 00
Thompson, John W	42, 43	100	50 00
Thompson, John W	not issued	150	75 00
Taylor, Job T	51, 52, 53, 54, 55 56, 57, 58, 184	150	75 00
Thorne, I N	11	50	25 00
Wadhams, Wm	20	25	12 50
Weil, Henry	73	50	25 00
White, E W	26	20	10 00
Williams, Chas H	150	50	25 00
Zech, Jacob	113	5	2 50

And in accordance with law, and an order of the Board of Trustees, made on the eighth day of May, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by John Middleton & Son, No. 310 Montgomery street, San Francisco, California, on Wednesday, the fifteenth day of July, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

I. N. THORNE, Secr tary.

Office, No. 17 Montgomery Block, San Francisco, California. ju27

Gold Hill Tunnelling Gold and Silver Mining Company.—Location: Gold Hill Mining District, County of Storey, State of Nevada.

Notice.—The Fifth Annual Meeting of the stockholders of the above named Company, will be held at their office, 414 California street, San Francisco, Cal, on SATURDAY, the eighteenth day of July, 1868, at 10 o'clock A. M., for the purpose of electing Trustees to serve for the ensuing year, and such other business as may properly come before it.

R. WEGENER, Secretary.

San Francisco, June 13, 1868. je13

Subscribers who do not receive the *Mining and Scientific Press* in due time, are requested to inform the publishers.

Globe Gold and Silver Mining Company.—Location of Works: Monitor District, Alpine County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-fifth day of May, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No Certificate.	No. shares.	Amount.
George Hogan	42	5	$10 00
J W Clark	49	5	10 00
H A Bartholomew	79	100	200 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-fifth day of May, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, on the eighteenth day of July, 1868, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

V. B. POST, Secretary.

Office, Lombard street, one door from Dupont, south side, San Francisco. jy4

Hope Gravel Mining Company. Location of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifteenth day of June, 1868, an assessment (No. 24) of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at his office, No. 533 Kearny street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on Wednesday, the twenty-second day of July, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the twelfth day of August, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary.

Office, No. 533 Kearny street, corner of Sacramento, San Francisco, California. Office hours from 12 to 2 P. M. je20

Senator Silver Mining Company.—Location of Mine: Storey County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the ninth day of June, 1868, an assessment of ten cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, 408 California street.

Any stock upon which said assessment shall remain unpaid on the fifteenth day of July, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Friday, the thirty-first day of July, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINOARD, Secretary.

Office, 408 California street, San Francisco. je13

Silver Sprout Mining Company.—Location of Works and Mines: Kearsarge District, Inyo county, Cal.

Notice.—The Annual Meeting of Stockholders of the Silver Sprout Mining Company, for the purpose of electing Trustees to serve for the ensuing year, will be held at the office of the Company, No. 408 California street, on TUESDAY, JUNE THIRTIETH, 1868, at 3½ o'clock, P. M.

T. B. WINOARD, Secretary.

San Francisco, June 5, 1868. je6-4w

The above meeting is postponed to Saturday, July 11th, 1868, at the same hour and place.

jy4 T. B. WINGARD, Secretary.

Siempre Viva Gold and Silver Mining Company, District of Zaragoza, Sinaloa, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifteenth day of June, 1868, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, 318 California street, up stairs, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirty first (31st) day of July, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the seventeenth day of August, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary

Office, 318 California street, Up stairs, San Francisco, California jy4

Whitman Gold and Silver Mining Company. Location of Works: Indian Springs District, Lyon County, Nevada.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-first day of May, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. shares.	Amount.
Cronise, Wm H V	101	5	$ 50 00
Cronise, Wm H V	245	30	300 00
Cronise, Wm H V	259	15	150 00
Roberts, Geo D	268	15	150 00
Roberts, Geo D	269	20	200 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-first day of May, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, on the fifteenth day of July, 1868, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. W. COLBURN, Secretary.

Office 402 Montgomery street, (Room No. 10, 2d floor) San Francisco, Cal. jy4

Yosemite Consolidated Mining Company.—Location of Works: Santa Fe District, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the ninth day of June, 1868, an assessment (No. 3) of seventy-five cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at his office, No. 528 Kearny street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on Thursday, the sixteenth day of July, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the fifth day of August, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary.

Office, No. 533 Kearny street, corner of Sacramento street, San Francisco, Cal. Office hours from 12 to 2 P. M. je13

Postmasters are requested to punctually inform us of the removal of subscribers of the Press from their locality, or of neglect to take the paper out of the office from any cause—when the subscriber omits that duty himself. It is not our intention to send this journal to any party longer than it is desired. If we inadvertently do so, subscribers and others will please inform us.

Machinery.

VARNEY'S
PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setlers for themselves, at the **PACIFIC FOUNDRY,**

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BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

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M. PRAG IS NOW PREPAREO TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

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E. O. HUNT'S

Manufactory of

Windmills, Horse-Powers and Pumps,

Has been removed from the old stand on Second street, to

114 and 116 Spear st.,

Next above Stuart and south of Mission st., San Francisco.

Hunt's Patent Wind-Mills, Tread Horse-Powers, Sweep Horse-Powers, (for one or four horses), Sawing Machines, Pumps of all kinds for shallow or deep wells,—including Hunt's Submerged Pump, Hunt's Globe Pump, and Hunt's Single and Double-Acting Pump.

Pumping Machines and general Machinery kept constantly on hand and built to order.

Also, Water Tanks of all sizes.

Having put up large new buildings specially for my business, with greatly increased facilities in the way of room and steam power, I shall be able to build everything in my line at greatly reduced rates.

All desirous of procuring water for irrigating or other purposes, are invited to examine my articles before purchasing elsewhere.

23v16 **E. O. HUNT, Proprietor.**

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MORRILL'S

Petroleum and Universal Oil Stoves

Have proved themselves a superior substitute for Wood and Coal Stoves, in that they work quicker, are neater, bake and broil better, are MORE ECONOMICAL generally. They are portable, can be used in any room, with or without chimney, as they emit no smoke, soot or ashes. There are nine different sizes, designed for barbers, dentists, and other mechanical purposes—as well as for cooking. They are perfectly safe.

I now offer a reward of **$100** for every Petroleum Stove exploded by Naphtha delivered at my store, 18 Geary street, where they are for sale by

M. B. BULLARD,

Proprietor of Petroleum Stove for California, and Agent for Universal Oil Stove for Pacific Coast.

N. B.—Petroleum Stoves burn Naphtha converted into a gas. Universal Oil Stoves burn Naphtha, Benzine, or Coal Oil, with non illuminating flame and light on a wick as easy as a lamp. 21v16 3m

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MACHINE OILS OF ALL GRADES,

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7v18 6m **H. T. HOLMES.**

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Iron and Metal Importing Company,

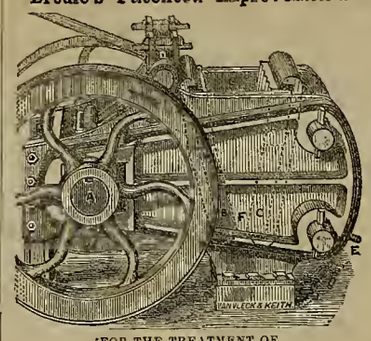
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Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings, which they offer to the trade on liberal terms.

2tv16 3m W. McCRINDLE, Manager.

Brodie's Patented Improvements



FOR THE TREATMENT OF

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BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:

No. 1—Or 10 inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price..... $600

No. 2—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour..... 850

No. 3—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour..... 1,200

These Crushers have been erected at several mines in the State of Nevada, and others in Calaveras, Tholumne and Mariposa counties, to whom applicants can be referred as being the most efficient, cheapest, and least weight compatible with strength and durability, of any Crusher yet erected.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.

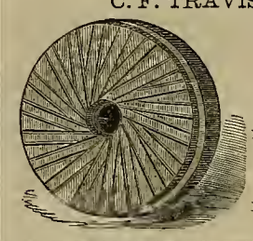
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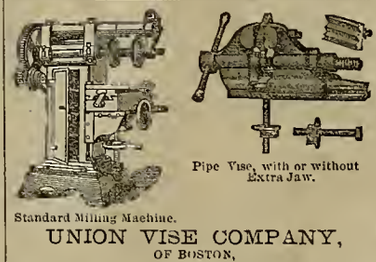


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☞**JOB WORK** done to order, at the shortest notice. Main street, between Folsom and Harrison,

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Standard Milling Machine.

UNION VISE COMPANY,

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Make Vises of all sizes and kinds, for Machinists, Blacksmiths, and all other heavy mechanical work. Wood-workers' and other Vices, with Covered Screw, for general mechanical work. Standard Milling Machines, very simple and easily adjusted. Address, Boston, Mass. 23v16-1y

Belting and Lacing.

AN ENTIRELY NEW AND SUPERIOR ARTICLE OF exclusively mechanical preparation, made to order on short notice, and for sale by H. BOYER, at 435 Brannan street, between Third and Fourth. Refers to Elsen Bros., Pioneer Mills; Martin Sieen, National Mills; Horace Davis, Golden Gate Mills; also, N. W. Spaulding, Saw Manufacturer. 6v16-3m

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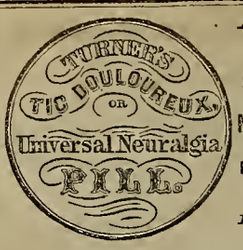
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A SAFE, CERTAIN, AND Speedy Cure FOR **NEURALGIA,** AND ALL NERVOUS DISEASES.

Its Effects are Magical.

It is an UNFAILING REMEDY in all cases of Neuralgia Facialis, often effecting a perfect cure in less than twenty-four hours, from the use of no more than TWO OR THREE PILLS.

No other form of Neuralgia or Nervous Disease has failed to yield to this

WONDERFUL REMEDIAL AGENT.

Even in the severest cases of Chronic Neuralgia and general nervous derangements,—of many years standing,—affecting the entire system, its use for a few days, or a few weeks at the utmost, always affords the most astonishing relief, and very rarely fails to produce a complete and permanent cure.

It contains no drugs or other materials in the slightest degree injurious, even to the most delicate system, and can ALWAYS be used with

PERFECT SAFETY.

It has long been in constant use by many our most

EMINENT PHYSICIANS,

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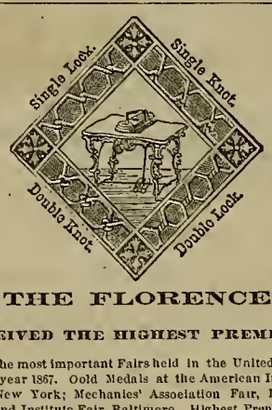
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Six packages	5 00	27 "
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Sole Proprietors,

9v16 6m 120 Tremont street, Boston, Mass.



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Every First Premium

Awarded on Family Sewing Machines in the LAST FIVE YEARS. If there is a Florence Machine within one thousand miles of San Francisco, that is not giving entire satisfaction, if I am informed of it, it will be attended to without express charge or expense of any kind to the owner.

SAMUEL HILL, Agent,

11v16-4m 111 Montgomery street, San Francisco.

International Hotel,

JACKSON STREET

BETWEEN MONTGOMERY AND KEARNY STS.,

SAN FRANCISCO, CAL.

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Prices varying from $1 50 to $2 per day for Board and Room.

FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.

☞Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for **50** cents

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227 and **229** Second street, between Howard and Folsom Sts., San Francisco. Late BRANCH HOTEL, Sutter St.

M. O'NEIL, Proprietor.

Single Meals.....25 cents. | Five Tickets.....$1 00

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California Labor and Employment Exchange

319 Battery Street, San Francisco.

MINING COMPANIES, MANUFACTURERS, CONTRACTORS, and employers of all descriptions of labor, are requested to send their orders to the Exchange at once.

19v16-3m H. C. BENNETT, Secretary.

Manufactures in the West.

The Chicago *Journal* publishes a lengthy article under the above head, which will be found particularly interesting in connection with the publication in this paper of the 20th ult., under the title of "The Westward Tendency of Manufacturing Enterprise." The entire subject, particularly with reference to its bearing on the food question, is one of much interest, and cannot be too fully dwelt upon by California capitalists. We quote the following extract from the article in the Chicago *Journal:*

For some time Eastern manufactures have felt grave apprehension that they were about to lose not only their best customer, the Great West, for a large portion of their manufactures, but were to find in her a formidable rival. These apprehensions are not without foundation. Everything connected with the progress of the country makes the fact plainer every day that the West is destined, at no distant period, to become the great seat of manufacturing industry. The richness of the soil, the variety and abundance of her productions, her rapidly increasing population, and their diversified callings,—the wide extent of her territory, and being situated at the eastern termini of the Pacific Railroad, and made the receptacle of its immense business and freight, all are exerting a mighty influence that will revolutionize the industrial interests of the country and change the whole current of business. Everything, so far as human ken can discover, shows forth the fact that the West will soon become not only the center of trade, but of civilization also.

Western capitalists are already discerning the course towards which the current of mechanical industry is setting. Also skilled mechanics from the Eastern States, as well as from foreign lands, are taking cognizance of the fact, that the future of manufactures, and the necessary establishment to carry them on, are already taking up their line of march towards the setting sun, and locating themselves on the banks of our unfailing streams, on the shores of our large inland lakes, and within the limits of our thrifty villages. Every week our country exchanges bring us accounts of the starting up of new enterprises, the extension and enlargement of old establishments, the introduction of improved machinery, the acquisition of skilled labor, and the employment of more hands and a greater increase of capital. The significance of these steps foreshadows a great revolution in the commercial and industrial condition of the Western States, and the progress of these events will dispel the illusion of Eastern manufacturers and capitalists, that the Eastern States are to remain for an indefinite period the workshop of the country, and that their sister States outside of their limits must pay tribute to her trade princes.

In connection with this matter, it will be well for our people to remember that political economists hold, that an exclusively agricultural State never reaches the highest point of material wealth and prosperity; that they are dependent upon a variety of industries, a diversity of occupations; and that these are necessary to create a higher civilization, a more rapid change of ideas, a greater multiplicity of wants, better markets, quicker circulation, ample internal resources. These plain facts are coming home to the bosoms and business of our merchants and agriculturists. They now see that they are paying out of the State what might as well, and better, be retained in it; that they are purchasing the manufactures of the East at the highest prices and paying for them in agricultural products at a cost of transportation and brokerage that leaves a very small margin for profit, and had it not been for the extraordinary resources of the West, her people must long ago have become a community of bankrupts.

THE ROBIN AT FAULT.—A remarkable instance of the lack of the "hump of locality" in birds, came under my observation some years ago. I had nailed a board of moderate width under the eaves of a barn to form a resting-place for the nests of the cliff, or jug-swallow. It was inclined at an angle so as to form a sort of trough. A robin commenced building her nest in it, but seeming unable to fix upon any particular spot, deposited the mud and straw along the entire length of the trough, about ten feet. After working several days, she abandoned her task. Shortly afterward I saw a robin (whether the same bird or not I cannot say) attempting to build her nest in the same way, along the entire outer cornice of a house, about thirty feet.—*A. P. R., Geneva, N. Y.*

PRUSSIAN military chemists have reduced nitro-glycerine to a condition available for military use, and grenades filled with it and shot from guns of ordinary caliber are said to have smashed the strongest cuirass that ever covered the sides of an iron-cased ship. Nitro-glycerine has been reduced to a solid by precipitation. The combustibility of this dangerous explosive fluid is considerably diminished, while its force remains unimpaired. As the utmost caution has heretofore been absolutely necessary in handling nitro-glycerine, the value of the discovery is exceedingly important.

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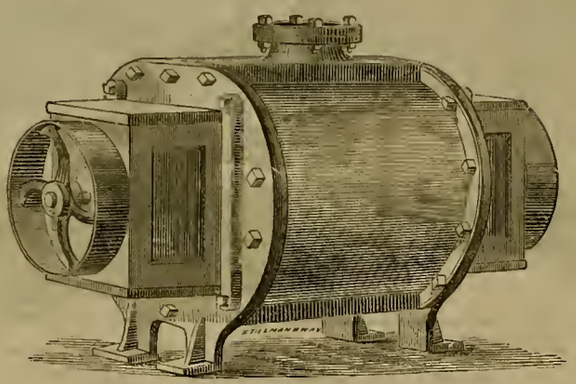
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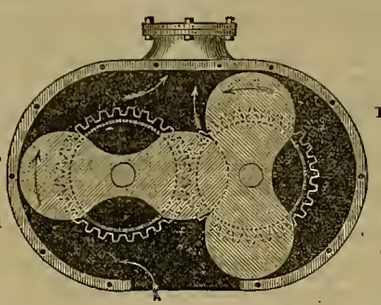
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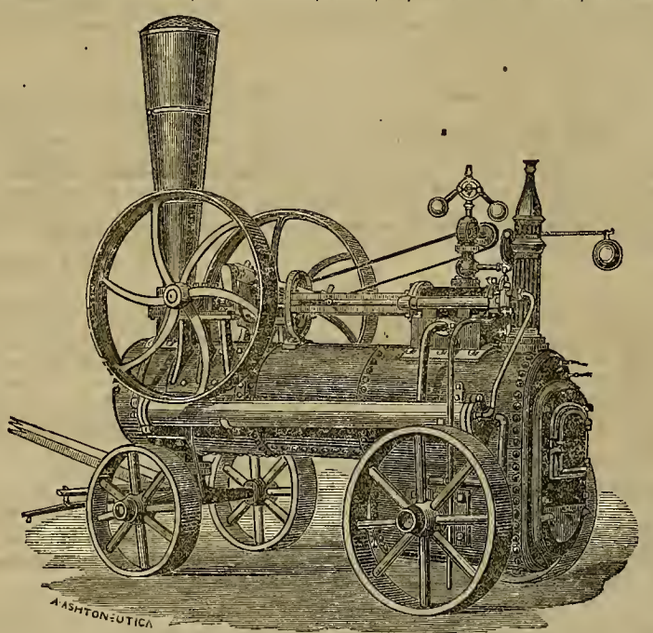
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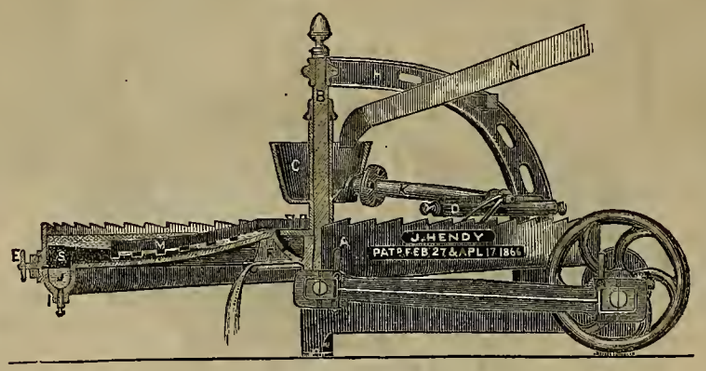
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THIRD—Open the gate, E, sufficiently to discharge the sulphurets as they accumulate over the amount above mentioned.

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S. W. LEE, Supt.

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The Hicks Engine—Important Testimony.

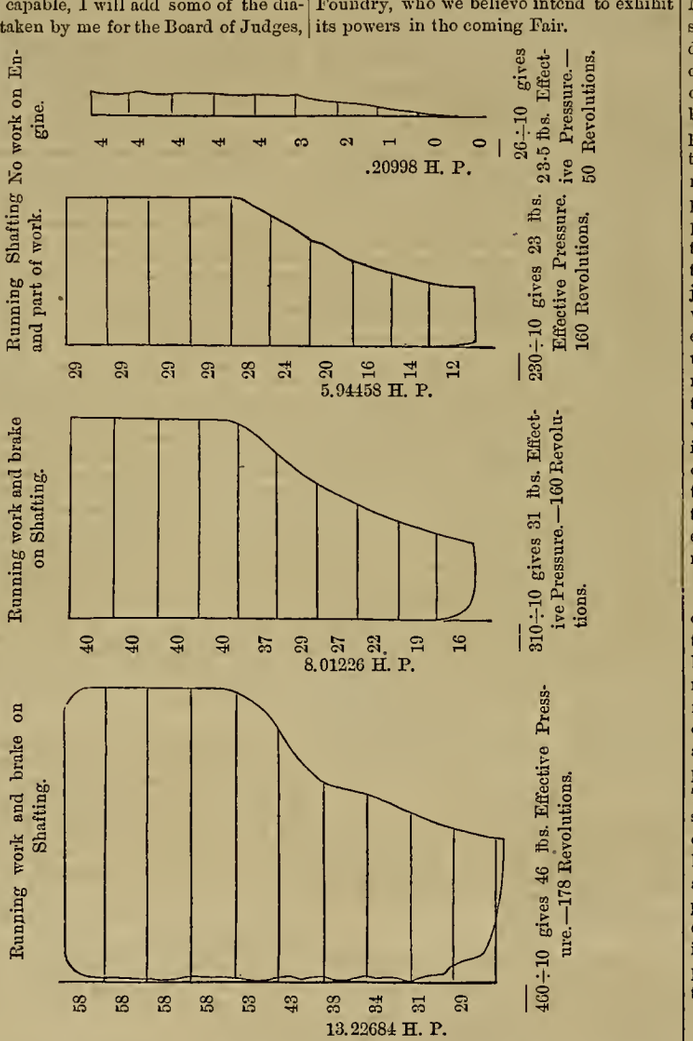
In our issne of May 16th, we gave an illnstrated description of the interior mechanism of tho Hicks Engine, together with some general remarks in regard to the manner in which it does its work. At the Fair of tho Mechanics' Institute, held in Lowell, Mass., in September, 1867, Mr. Marsh B. Horne, Managing Eogineer of the Merrimack Print Works, end a gentlemen who has constantly under his supervision eomo twenty engines, varying in capacity from 1,000-horse power downwards, wes requested by the judges of the Department of Machinery et that Fair, to examine and test, as an expert, one of the engines menufactnred by this compeny. The engine selected for this was one in use in Salem, of 6-inch cylinder, 6-inch etroke, reted and eold as a 15-horse power engine. The report of the expert was in eubstance as follows:

It is more correct in principle than engines of ordinary construction, because it accomplishes the same results by a simpler construction; its cheapnese is apparent from tho smallness of the number of its parts, and the small amount of finishing work required upon it; its emall numher of parts and large bearing eurface afford ample evidence of its durability; its weight is less than one-half that of ordinary engines of same capacity, and epaco occupied about one-quarter. The ehop records, as far as he had examined them, where these engines had been used, ehow economy in fnel. In luhrication and care it possesses decided advantages.

On the points of friction and power, Mr. Horne reports at considerable length, giving eeveral indicator cards, which we have reproduced. With reference to these cards Mr. H. eays:

Thc indicator cards taken by me, as given below, show that the power of this engine to overcomo friction, amounted to only 210-1000 of one horse power, or one and one-third per cent. of the nominal power of the machinc. This is tho most astonishing result in my experience, and I will let the figures carry their own inference. In my pinion, the frictiou varies in an almost infioitesimal degreo under one or one huodred pounds pressure of steam, as tho pressure is at ao opposito angle from tho wearing surface of the piston and does not eensibly effect it. As to the power of which this engino is capable, I will add somo of the diagrams taken by me for the Board of Judges, all of which were tho most absolutely perfect of aoy indicator cards I have ever eeen taken on any engine.

The Hicks' Engine is manufactured in this city by the proprietore of the Miners' Foundry, who we believo intend to exhibit its powers in tho coming Fair.



INTERESTING AGRICULTURAL EXPERIMENT. A French horticulturist has recently made somo very interesting experiments. In the autumn he filled three flower pots with coal ashes without admixture with any other substance; in one pot he sowed wheat, in another oats, and in the third etrawherry seeds. The pots were then placed in a garden bed and left to themselves. In tho month of March the plants were in a very thriving condition, and in April they were luxuriant. The wheat and oats ripened perfectly, the grains heing large and heavy, and the straw, in tho case of the wheat, 55 inches, and in that of the oats 43 inches high. The strawherry plants continued to flourish till Octoher, when it was necessary to transplant them, and after being planted out in the open ground they succeeded so well that they eurpassed all his other seedlings.

STATE FAIR.—The State Agricultural Fair will open at Sacramento on the 15th of Septemher and continue until the 25th, a period of ten days. The managers aunounce that the prospects are favorable for a good exhibition of all our indnstrial products. A letter from the Secretay, N. Hoag, informs us that the revised premium list will be issued in a few days, as also copies of the Transactions of the Society for 1866 and 1867.

THE OAKLAND POINT FOUNDRY, hitherto under tho joint charge of Messrs. G. A. Walker and M. T. Mead, will hereafter he conducted by the latter gentleman. It will be seen from the card which appears to-day, that Mr. Mead is prepared to manufacture all kinds of castings, and we should judge on very favorahle terms, as rents are comparatively low on that side of the hay.

A NEW TREATY WITH CHINA.—Among the first fruits of the Burlingamo Chinese Embassy, is the concluding of a new treety hetween the United Statee and Chine. By the terms of this treaty China ie to have a Minister Resident at Weshington—the firet step towards the establishment of equal diplomatic relations with the great powers of the world, which wae announced to be one of the objects of the Burlingame Embassy. The treaty also containe a clause providing for the interchange of emigration, which will facilitate American settlement and enterprise in that Empire. The people of eech conntry will also he thereby put more upon their mutuel good behavior toward one another. It would be extremely annoying for our people to he subjected to the verious modes of annoyance which are practiced toward Chinemen here; end such will most assuredly he the result unless some of the people of California soon mend their ways in this particular. Under the stimulus of this new treety with Chine, we may hope eon to see our commercial intercourse with that country greatly increesed; end may we not also hope for the early and general introduction there of the railroad and telegraph, as well as a more extended employment of eteam on her megnificent rivers?

NO WANT OF FUEL.—It hes heen very correctly seid that if all the coal mines in the world ehould take fire and hurn up, boundlese quantitiee of heat and light could now hy the aid of science he extracted from rivers and seas. By magneto-electric machines water may be decomposed without any expenditure except that of mechanical power, and kecpiog the power in order. There is power enough in the tides that sweep through Hell Gate to turn machioes enough to decompose water and furnish hydrogen for every purpose for whioh fuel and light is required in New York city. In plece of the enormous expenditure at present incurred for fuel and gas, our dwellings may yet be warmed and lighted hy the perpetual and undimishing power of gravitation.

EXPLORATION OF THE COLORADO.—A most important ecientific expedition was to have left the Mississippi frontier, about the first of this month, which will he known as the Powell Scientific Expedition. The party consists of about twenty-five men, who represent different departments of science. It is their purpose to concentrate and cross the Rocky Mountains at Berthoud's Pass, and from that point reach, hy the nearest route, the Grand River, and there huild hoats in which to descend thet river to ite junction with the Green River, where it becomes the Colorado. Here, if the grass is found in sufficient quantities for stock, the expedition will winter, and next spring descend the Colorado to Callville, and thence return home. This expedition, if it follows the present plans of the projector, will examine a section of the Colorado country hitherto unexplored—a wild, hroken region it is supposed to be, of great interest to the geologist especially, and it may he to ecientists repreeenting other specialties,

Communications.

In this Department we invite the free discussion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[From our Traveling Correspondent.]

Mining Prospects in Northern California.

SISKIYOU COUNTY.

In Yreka but little is being done; hut beyond question, bere is a fine opening for capital, as there is evidently a large body of ground varying from one to two bundred feet in depth, and prospecting from twenty cents to two dollars per pan, which can only be worked by a drain cut and tunnel three and one-half miles in length. This ground is well worth tbe attention of capital, and should the enterprise be entered into, Yreka will again produce more than during all her past history.

On Humbug Creek there are a few claims doing very well; also quite a number of quartz leads that promise largely; among tbe most prominent are tbe Eliza, and the Siskiyou, tbe former is owned hy Lash & Co. They bave a 10-stamp mill, and have quite recently made a commencement. The ledge is of good size—about three feet—and looks well for top rock. The latter (Siskiyou) is owned by a San Francisco company — McPberson, Superintendent. This is a rich vein, nearly three feet in width, but in the opinion of the writer cannot he worked successfully hy any proccss now in use in the State. On McAdams Creek, drift mining is heing pusbed to considerable extent. Tbe ground is deep and worked at heavy expense; yet pays fairly to all interested. At Indian Creek, Miller, Decker & Co. have recently made a very good clean up from their hydraulic claim—nearly $6,000 from forty days' run. There is some fair looking quartz in this vicinity, also two mills; hut mines and mills, at present, are at a stand-still. Capt. Rusbmore is trying to *rush* matters for his company in San Francisco. He is endeavoring to opcu up a set of drift claims near the mouth of the creek. Scott's Bar is gradually heing transferred to the Celestials, who, by the way, are iu many instances making big money. The ground is very mucb spotted, gold coarse, aud either pays largely or nothing at all.

At Oro Fiuo, and Mugginsville—two camps abont a mile and a balf apart—hydraulic mining bas quite recently received a start, aud is attended with some very flattering prospects, particularly about Mugginsville. There is bere an exteusive range of ground that heretofore was considered worthless, bnt which is now paying largely, and that too by quite an inferior metbod, which they call bydraulic, but which in Nevada County would he termed irrigating. The difference is, the oue has from 50 to 80 fcet pressure, five to six inch truuk pipe, and 1¼ inch nozzle, running from 150 to 250 incbes of water; while tbe othcr, iu Nevada County, has from 200 to 300 feet pressure, 24 to 48-inch trunk pipe, and from three to five (instead of one) tbree-incb uozzles, using from 800 to 1,000 inches of water. If this ground pays the way as it is now heing worked, what would it yield by the Nevada method? If some Nevada miuer would pay a visit to this place, the answer would be tbree times the present yield at least.

At Oro Fino there is a large interest offered iu a fine tract of ground, to any company wishing to engage in a bydraulic enterprise where tbe ground bas been sufficiently prospected to warrant large returns whenever tho claims are opened.

ROUGH AND READY.

The same remarks will apply to this place as at Mugginsville, except that the grouud has only been prospected as yct. Tbere is, bowever, an extensive tract being opened by the Ætna Company—Wm. McConaugby, Superinteudent. This company is incorporated with 300 shares; capital $30,000, aud will he in active operation very soon. It is owned exclusively hy citizens of Scott's Valley, wbo repose the greatest confidence in the enterprise. At Frencb Gulch there is some very good looking quartz, some of which is very rich, particularly the George Schole lead, which is now heing worked by arastras. The vein is of fair widtb, imhedded in granite, sbowing considerable free gold, and containing a beavy proportion of sulpburets with a little galena. A tunnel is heing run to tap the lead some tbirty feet lower, wbere it is expected it will be better defined. On South Fork, near Callahan's Ranch, considerable crcek mining is being doue, paying only fair wages.

DEL NORTE COUNTY.

Happy Camp, as tbe name signifies, is rather a cheerful little placc, situated ou the Klamath River, about fifty miles above Orleans Bar. Mining in this locality, thus far, is conducted in a very rude state. The grouud appears to be good, in fact, No. 1; consisting entirely of bank or bench cbannels, prospecting beautifully, varying from five to twenty-five cents to the pan. The great want bere is capital to briug in water, whicb can be done hy only running from seven to twelve miles and obtaining from three to 5,000 incbes constant supply. There is an extensive belt of ground here, of some twelve miles in length, which only requires to he supplied witb proper ditcbes to develop a camp unsurpassed by any in the State. S. S. Richardson, Superintendent of a San Francisco company, has already made a commencement, bringing in a ditcb at au expense of some $40,000. He will be ready to commence mining tbis fall. But in tbe opinion of the writer, there are many other chances far superior to those taken, for further investments. This place is positively every way worthy of the special attention of capital, seeking to invest wbere speedy returns can he realized with a moderate outlay.

At Crescent City and viciuity, very little is being doue except heacb miniug; which, hy the way, is paying finely to those fortunate enougb to possess the ground, averaging from six to twelve dollars to the man. The pay dirt is found in old hcaches, existing in stratas of black sand, deposited by the surf at some remote pcriod. [Similar strata of black saud, containing gold, may he seen in the high bank of the Sacramento River, just east of the wbarf at Martinez, which was formcrly an ocean heach. It is from the breaking down of this bank that gold bas been distrihuted along the river beacb adjoining thercto.—Ens. Press.] The gold is very fine, aud is worth usually $19 per ounce. [The same character of gold may be found at Martinez.—Eds. Press.] The process of working, is to sbovel into a tom to separate tbe sand from the gravel, and from whicb the sand is carried over large sheets of copper plate, kept continually bright witb sodium, on which all tbe gold is saved.

THE COPPER MINES,

fourteen miles from this place, are, at present, at a standstill. The mines are good; so are tbe men who own them; but tbe market—alas! the copper market—is not. Not only bere, but tbrougbout tbe State the same condition exists.

KLAMATH COUNTY.

At Sawyer's Bar there are some few hydraulic claims beiug worked on the one-horse principle; yet paying very well considering the style of working—fifty feet pressure, five-inch pipe, and one aud one-fourth inch nozzle. The Findley claim, with this kind of machinery, realizes from six to eight dollars per man. They bave a large body of ground,—enough to last at least scventy-five years with the present manner of working. Unless science is brought to aid this place, Sawyer's Bar will live—yet not grow rich—for generations to come.

Five miles from this place, on tbe divide between the North and Soutb Fork of the Salmon, exists a belt of quartz, apparently as promising as any iu the State. The ledges are large, and present all the favorable characteristics of good pay rock. 'Tis true there have heeu several failures; but they are attrihutable to the want of experienced management, not to tbe fault of the mines. When capitalists and companies ccase to send out broken-down merchants, but in their stead will send intelligent, practical miners to superintend their enterprises, then, and not till then, will quartz miniug be considercd as safe as merchandizing or any other branch of business.

There are several fine looking mines on this helt, within a distance of four miles of each other. The Uncle Sam is a mammoth ledge, unprospected as yet, indicates finely, and would, undoubtedly, if properly opened by an experienced miner, prove to be of immense value. The Union, owned by Swain Bros., of Scott's Valley, is reputed to he a ledge of value, and will douhtless soon he worked in a paying manner. Attached to the miue is a steam mill of eight stamps, constructed at the Vulcan Foundry. The Live Yankee Company are developing their mine, expecting to start up soou. This, together with an eight-stamp water mill, is owned by William Coddington, of Humboldt Bay. A. B.

[Continued in our next.]

[From our Traveling Correspondent.]

Mining in Jackson County, Oregon.

Owing to a scarcity of water, very little placer mining is heing done this season. It appears that this region was visited witb less snow and rain, during the past winter, than any portion of country either North or South. At Sterlingville, however, there are a few claims doing a very fine business, for a short scason. Their ground is good, and plenty of it; what tbcy nced is capital to bring in water. In Jacksonville, quartz appears to be all the rage. Col. Drew, Superintendent of the Occidental mill, has demonstrated, beyond question, tbat good payiug gold-bearing quartz exists in plenty iu that vicinity. This gentlemen has a fine 10-stamp mill of Miners' Foundry construction, situated on Jackson Creek, about three miles from this city. The mill is located at the base of a high mountain, containing a series of ledges, varying in width from three to fifteen feet, and presenting as fine variety and character of ores as any in the State of California. Col. D. has introduced the "Rittinger boxes," (described in the Press some time since), in his process of working. This application is cheap, easily applied, and works to his entire satisfaction.

For particulars, as to the construction and working of said boxes, the readers of the Press are referred to an account given of them in the issues of Jan. 5th and 19th, 1867. That this district abounds in ledges, many of which will eventually prove to he first class, the writer has not the slightest douht; and as to cheapness of working, a more favorable location could not be had on the Pacific Coast, possessing an abundance of timher and water sufficient for all milling purposes. Wood is now heing delivered on the ground at two dollars per cord, and labor is only two dollars per day, or forty-five per month, includiug board. These rates are cheaper than at any other point; to account for it, the reader has only to be made aware that this district borders upon one of the finest valleys, and most extensive agricultural districts west of the Rocky Mountains. B.

How to Shoe a Horse.—Bonner, of *Ledger* notoriety, who never does anything by halves, is as particular with the minutiæ of bis business as be is with business matters of more weigbty moment. This peculiarity is most strikingly developed in the importance wbicb be attaches to the shoeing of the delicate hoofs of his higb-blooded trotters. It is said that he always superintends this operation in person, the details of which he not only directs, hut even assists in personally. The details of Bonner's process of shoeing a horse are given as follows:

"As tbe perfect flatness of the shoe is necessary to even aud comfortable stepping, Mr. Bonner bas procured a smooth and flat block of marhle, npon wbose surface he places every shoe before it is nailed to the horse's boof, and if the iron does not lie plump on the stone, it is hammered and filed until a thoroughly level surface is obtained. He bas also a tbcory ahout fastening a shoe. He makes the smitb hammer the nails alternatcly on eacb side, stroke for stroke, nail by nail, left and rigbt, so tbat the tightening of the shoc to the boof, is gradual and equal on both sides. He also has the shauks of the shoe stretched a very little wider than the hoof, and hy this system of driving the uails, the foot is brought out to the sboe, aud the frog and beel are expauded iu the operation. The result is highly couducive to the soundness and toughness of the hoof and the freedom and firmness of step in tbe animal."

Hops.—Tbere are 145 acres of hops in Ukiah Valley, Mendocino County.

Ante-Mortem Benevolence.

Acts of benevoleuce, on a large scale, entered upon by men of wealth during their lifetimes, are becoming quite frequent of late years. Sucb a practice is much better than to wait until the death of the philanthropist gives opportunity, as too frequently bappens, for a large portion of the funds intended for benevolent objects to be uselessly squandered in vexations lawsuits hetwecn heirs and executors. Moreover, no man so well knows how to carry out his own ideas of hencvolence, as he who first conceives and resolves to put them into practice. Our own Peahody is the noblest example of this kind which has yet gladdened tbe hearts of the poor and needy. Mr. Whitworth, of Manchester, Eng., is another notable instance of this sort of benevolence. He has recently donated £100,000 for the foundation of thirty scholarsbips, for the pursuit of mechanical studies. These scholarsbips will he of £100 each, and will be maintained by the interest of the above named sum. Ten of theso scholarships are to be competed for and awarded in May, 1869. Mr. Whitworth is well known as a mecbanician of great repute. He is tbe head of one of the most extensive manufactories of macbinery in England. He is the inventor of the beautiful apparatus for marking extremely minute intervals of apacc, whicb is considered by experts as a marvelous contrivance; also of the celebrated Whitworth rifle and the ordnance wbicb hears his name. Many other names might be enumeratcd; but our preseut object is to call attention to the following, which we condense from the Sheffield (England) *Independent* of the 23d of May last:

We are glad to learn that the very handsome benefaction of Mr. Mark Firth, which we mentioned yesterday, is even more comprehensive than we were at first led to suppose. With a generosity as gratifying as it is rare, Mr. Firth has resolved to erect and endow 36 almsbouses, on a site of two acres of land at Hauging Water, Ranmoor, for the accommodatiou of 24 single persons, either men or women, and 12 married couples. The cost of the building, land and endowment, will be about £24,000. The charity will he open to natives of Sheffield, without respect to religious belief, on certain conditions to he yet settled. Each single inmate will receive 7s. a week, and eacb married couple 10s. The plans for tbo building, wbich are completed, will be at once proceeded with. The design is Gothic, in the form of a quadrangle, and the material rock-faced greenstone. The bouses in the center wing stand back to back; those in the return wings are single. The middle of tbe center wing is occupied by a pretty little chapel for tbe use of the inmates, from whicb rises au ornamental tower. Gas and water will he laid on to every honse. Standing in a beautiful neighborhood, the building will enjoy a warm, sheltered, sunny aspect, eminently suited to the residence of the aged and infirm, and will itself form an attractive featnre in the landscape. Long may it continue to fill its useful place, and at the same time bear testimony to the liherality of one of Sheffield's manufacturing princes, whose generosity is shown, not by last will and testament, at the expense of bis heirs, but by self-sacrifice made in the prime of life.

Useful Information.—*A Barrel* contains 10,752 cubic inches. A box 24 incbes long hy 16 inches wide and 29 inches deep—that is on the inside—will hold just a barrel.

A Half-Barrel—Make a box for this 24 inches by 16 and 14 incbes deep. This will contain 5,376 cubic incbes, or just balf a barrel.

A Bushel—This has 2,150 2-10 cubic inchcs. A bushel box will be 16 8-10 incbes square and 8 inches deep.

A Half-Bushel—A box 12 inches long by 11 2-10 inches wide, and 8 incbes deep, will bold half a bushel.

A Peck—A box 8 incbes by 8 4-10 inches square and 8 inches deep, is a peck.

A Half-Peck is 8 by 8 incbes square, and 4 2-10 inches deep, or 268 5-10 cubic inches.

A Half-Gallon—This contains 134 4-10 cubic inches. A box 7 by 4 incbes, and 4 8-10 inches deep, has just that quantity.

A Quart—4 by 4 inches square, and 4 2-10 inches deep.

Mechanical.

Drilling vs. Punching Steel Plates.

We have already called attention to the great advantage of drilling over punching for iron boiler plates. In the use of highly carbonized or very hard steel, the advantage of drilling over punching is still more apparent. The particles or crystals of very hard plate are cubical in form, and have a very firm adherence to each other; and while they offer great resistance, they lack the elasticity of softer steel. In softer steel the crystals are somewhat elongated, overlap each other, and have a certain amount of elasticity, combined with a capacity for still greater elongation. Hence, where a punch penetrates hard steel, a series of fractures occur, which extend to a greater or less distance into the mass, separating the crystals and weakening the plate much more than is due to the diameter of the opening made. The different form of crystals in soft steel, and their more yielding nature, admits of the passage of the punch with less fracture. In drilling, all fracture is avoided.

From careful experiments made with different qualities of steel plates, it has been proven that the average advantage gained by drilling over punching is fully 22.5 per cent. in point of tensile strain. The gain is larger in brittle steel or iron than in the softer metal of either kind; and larger in steel than in iron.

In the use of steel, annealing is found to be of very great advantage. It has been shown by actual experiment that hard steel which has been annealed after punching has *sixty-four per cent.* greater tensile strength than the same steel submitted to test before annealing. Annealing reduces the amount of carbon in the steel, and as a consequence changes the crystallization from cubical to that of an elongated form—approaching to fibrous.

Crucible-made steel verges much nearer to the fibrous character of fine iron than steel prepared in any other manner. The superiority of Crupp's steel is mainly due to its mode of crucible conversion. Even crucible steel is sixteen per cent. stronger when it is annealed after being punched, than when punched without being annealed.

These facts are especially important in all cases where steel plates are used, as for ship building, armor plating or boiler making. As much is now being said with regard to the introduction of steel boilers, it is especially important that this class of facts should be kept in mind with reference to that specialty. Cold hammering, either steel or iron, is very injurious; and especially so in the case of steel, which is often rendered absolutely worthless by such means.

Casting Metals in Plaster of Paris Molds.—Mr. A. C. Small, of Augusta, Ga., uses plaster of paris molds for castings of low fusible metals. He dries the molds perfectly in the open air, and when about to use them, warms them just enough to prevent their chilling the metal when poured in. After warming, he holds them over a flame that produces a large amount of smoke, until the inside of the mold is completely blackened over. About 200 castings can be obtained from each mold.

Large Wire Rope.—The largest, longest and heaviest wire rope ever made in one piece, has recently been completed at the works of John A. Roebling, Trenton, N. J. This rope is intended for hauling trains of coal cars up an inclined plane, at the north slope of the Wilkesbarre Mountain, Pa., and the load hauled up every trip consists of 10 cars weighing 30 tons, and laden with 55 tons of coal, making a total weight of 85 tons. The length of the rope is 3,700 feet; its diameter a little over 2¼ inches; weight 20 tons.

Circular Ships of War.

A novel vessel of war has recently been proposed by Mr. John Elder, of the well-known firm of Randolph and Elder, of Glasgow, Scotland. Mr. Elder recently read a paper, describing his plans, before the Royal United Service Institution. It appears from the description which he gives that he proposes to make his armor-clad circular in plan, the portion below the water-line, and for a short distance above it being a segment of an enormous sphere. The upper portion of the vessel is also formed, in part, of the segment of a sphere, the two segments uniting in a sharp circular edge, which Mr. Elder proposes to use for cutting purposes, as we shall explain presently. In the center of the vessel is a circular armor-plated battery or fort constructed to mount ten guns. Of course, being circular, the vessel has no head or stern, and it is to be fitted with machinery for propelling it indifferently in any direction. The propelling power is to be obtained by the projection of jets of water through convenient openings, the jets being supplied by some of the arrangements lately brought out by Mr. Charles Randolph. These jets will not only propel the vessel in any direction, but, by means of deflecting plates fitted to the nozzles, they will enable a rotary motion to be imparted to it. Mr. Elder expects to be thus able to rotate the vessel at a speed of about 10 revolutions per minute, and, as it is possible to load and fire a heavy gun in one minute, each of the ten guns could be thus fired at any object as it came to bear upon it, and could be reloaded during the time the remainder of the revolution was being performed. Mr. Elder also proposes to use the sharp edge of the revolving vessel as a kind of immense circular saw, and by its use to cut down an enemy's ship. As regards the resistance to propulsion of these circular vessels, Mr. Elder has carried out some experiments on models which seem to show that with a given displacement the resistance is but about 10 per cent. greater with the circular form than with a vessel of the Black Prince model. The spherical shape undoubtedly gives for a certain displacement a less area of wetted surface than any other form, and the skin resistance would be therefore proportionately diminished. The circular form also possesses advantages in the way of giving steadiness, large space for stowage, etc., and altogether Mr. Elder's scheme, says the *Engineering*, from which we condense the above, although rather startling at first sight, possesses many merits which render it entitled to careful consideration.

Steel Rails.—The impression is becoming more and more prevalent that steel rails must take the place of iron upon the railroad track. The constantly increasing weight which is being put into locomotives is doing much to bring about this necessity. It is found necessary at the present time, to have a much stronger rail than formerly for this reason; and it is proposed to attain both strength and durability, and at the same time decrease the weight of metal employed, by substituting steel for iron in the rail. The New Haven Railroad is now laying down about thirty miles of steel rails, and will substitute steel for iron as fast as the present iron rails wear out on other parts of the road. Steel rails cost only about twice as much as iron, and are said to wear ten times as long. The additional safety attained by their use is a most important consideration with the traveling public.

Compressed Wood.—Mr. Ed. Spaulding, of Brooklyn, New York, recently exhibited to the American Institute, two blocks of oak, one of which had been forced through an iron die, by an hydraulic press, at a pressure of about sixty tons to the square inch. The wood was compressed as solid as mahogany, while a similar piece from the same stick, but not so treated, was badly checked. The second piece was subsequently subjected to hydraulic pressure, and afterwards submitted to a high temperature for two weeks. Mr. Spaulding, who has recently devised this process, claims that the most inferior woods may, when thus treated, be employed for a great number of mechanical purposes, for which in their natural condition they are totally inapplicable. The invention, being an entirely new one, was regarded by the Institute as one of much importance.

Scientific Miscellany.

Sulphuric Acid and Platinum.—It has generally been conceded, and is taught in all text books, that platinum is not acted upon by acids; but Mr. Scheurer, of Thann, has recently shown that this metal is not only materially acted upon by sulphuric acid; but has actually measured the waste. He has shown that in an alembic employed in the manufacture of sulphuric acid, of sufficient capacity to yield 8,000 pounds of concentrated acid daily, the waste of metal is one-quarter of an ounce per day; and that, too, when the acid is nearly free from nitrous vapors. Two or three times as much is lost when the acid is no freer from these vapors than it ordinarily is. New vessels suffer less than those that have been a long time in use. The addition of sulphate of ammonia to the acid, in sufficient quantity to render the nitrous vapors inert, is a partial remedy. Platinum, however, which contains iridium, is much more durable than the pure metal. Since the discovery of M. Scheurer, platinum, intended for the manufacture of vessels to be used in the production of sulphuric acid, is alloyed with a small quantity of iridium.

Comets.—There are so few comets which revolve in short periods around the sun, and these few are subjected to so many dangers—existing seemingly under the continual risk of dissolution—that a certain interest attaches to the search for periodical comets at their successive approach to perihelion. Of nearly twenty comets which are recognized members of this class, only eight have been known to return at the predicted seasons, and one of these has lately failed to appear at the appointed time, although all the leading observers in Europe have swept diligently with their telescopes over the region along which it was expected to travel. No one knows what has happened to this particular comet. Its path had not brought it near to any of the large planets; but a certain suspicion had already fallen on its character for consistency, since, as at a former visit, it had separated into two distinct comets under the very telescopes of observers. Another comet of the same class was watched during two revolutions and then vanished. But astronomers had an inkling in this case of the cause of this catastrophe, since it was known that Jupiter had introduced the stranger within the solar system, and it was recognized that that giant comet-compeller was competent to dismiss the comet from the neighborhood of the sun. The majority of those comets, however, which have disappeared from our ken, have done so without any assignable cause.

Jupiter appears to be the great comet disturber of our system. It is pretty generally conceded that it has been the ruin of several, and it is well known to have more or less modified the motions of several others. When anything appears wrong in the course of one of these celestial wanderers, which has a path that nearly approaches this giant disturber, astronomers are apt to keep a pretty good lookout in the neighborhood of that planet. Quite a number of comets have a period of from five to six years, and an orbit but barely reaching beyond that of Jupiter.

Recent Geological Changes.—The geological changes that have occurred in China and Japan are almost incredible, and are decidedly more rapid than any of which we have any record in other parts of the world. The land is elevated and gains on the sea. Mr. Bickmore, an American traveler, has made careful observations from Canton up to the mouth of the Amoor river, and his general conclusion is that the facts, taken in connection with the dry beds of friths and bays along the Siberian borders of the Arctic Ocean, and the remnant of the old gulf that once washed the eastern flank of the Ural, enable the geologist to form an idea of the large increase of the Asiatic continent within a comparative recent period.

A Discovery in Magnetism.—M. Gerard is said to have discovered a very curious fact. If a metallic ring made of wire, the diameter of which varies regularly, so that at one side of the ring it is very thin and at the other side relatively very thick, be suspended over an electro-magnet, it will revolve. The author sees in this fact the germs of a new system of electric telegraphy, for the details of which we wait.

The Phenomena of Light—Interesting Exhibition.

A number of experiments, as illustrating the phenomena of light, were performed the other night in the Philadelphia Academy of Music, by Professor Henry Morton of that city. The following, among others, were specially interesting:

"The professor placed himself and apparatus on a platform secured to one of the stage traps, and was then raised to a great hight above the floor, at which elevation he burned in the compound blowpipe a piece of thick steel wire rope. The fountain of scintillating sparks and drops of melted steel—which, descending in a broad sheet some fifteen feet in width, poured upon the stage and rolled in a torrent of fiery hail toward the foot lights—was a sight never to be forgotten. A wheel five feet in diameter, supporting electrical tubes, was rotated, while flashes of electric fire from the largest induction coil in the world, belonging to the University of Pennsylvania, were passed through, producing a dazzling star of constantly changing colored rays.

The drop curtain, descending for a few moments, rose again, displaying a beautiful palace scene, illuminated by numerous lime lights, judiciously placed. There then marched in a great number of masked figures, in costumes representing the colors of the rainbow, and bearing banners with brilliant devices. These taking positions, formed a tableau equal in brilliancy and beauty of general effect to anything we have ever seen upon the stage. At a signal the white light was extinguished and its place supplied by pure yellow light, equally bright, when every trace of color disappeared, and the entire phalanx became a ghastly company of specters bearing banners of white and black. The means for producing this yellow light is a device of Professor Morton's, entirely new and eminently efficient—in fact, the entire house was illuminated with it from the stage, so that the same wonderful change was manifest in the faces and costumes of the audience."

New Manganese Battery.—A battery, composed essentially of peroxide of manganese and a sinc liquid, chloride of ammonium, has recently been constructed by M. Leblanche, and according to *Les Mondes*, has been already somewhat extensively adopted, or, at least, taken on trial by several telegraph companies on the Continent. It has been long known that peroxide of manganese possesses an electric conductivity similar to that of metals. The author only uses the natural crystalline peroxide of the purest quality. This is broken up and placed in a porous vessel, where it surrounds a carbon plate, forming the positive pole of the battery, the negative plate outside the porous vessel is simply a thick rod of zinc; the liquid which bathes both plates is a concentrated solution of sal-ammoniac. It appears to be a very constant form of battery, and exceedingly economical.

P. Pellogio describes a contrivance by which the troublesome "humping" peculiar to certain liquids when submitted to distillation, may be obviated. A glass tube, as wide as is convenient, is passed through the tuberlure into the body of the retort, nearly to the bottom. The upper end of the tube is bent at a right angle, and drawn out to nearly capillary dimensions, thus estsblishing a communication between the interior of the retort and the outer air. With this arrangement of apparatus such liquids as methylic alcohol, sulphuric acid, etc., distill as smoothly as water.

Magnesia Cylinders for the Drummond Light.—M. Caron has published a short account of the way in which he makes his magnesian cylinders for the Drummond light. He takes magnesia which has been purified from alkalies and the other alkaline earths, and after moistening it with a solution of boracic acid, presses it into molds. The reason for separating the other alkaline earths and alkalies is that their presence would affect the color of the light. The boracic acid would probably give a greenish tinge to the flame.

Speed of the Senses.—The speed with which the sensation (of pain for instance) is carried forward from the part affected to the brain is far from being, like electricity, instantaneous; it travels at a rate of less than 100 feet per second—less rapid than the flight of an eagle, which is 130 feet per second.

Contributions for our Cabinet.

Under this heading we shall continue to mention and describe, according to merit, such specimens of ores, minerals, fossils, curiosities, etc., as may be presented, or forwarded to us by mail or express, prepaid. Each article will be numbered and placed in our cabinet, and recorded with the name of the donor, and the claim or location from whence it came.

H. C. Leonard, Superintendent of the Oregon Iron Works, at Oswego, about nine miles south of Portland, has sent us a fine sample of the iron produced in that establishment, together with a beautiful specimen of furnace product, taken from the bottom of the stack after "blowing out." The same box also contains a beautiful sample of the ore—hydrous oxide of iron, of the limonite group. The specimen before us, judging by the eye, is nearly free from earthy matter and probably contains over eighty per cent. of oxide of iron. The average yield of the ore as it is taken from the mine, is about 50 per cent. We have numbered these specimens for our cabinet respectively, 211, 212, 213. The extraction of the ore at this mine costs only $1.50 per ton. It is found in large quantities in the immediate vicinity of the works. An especial interest attaches to these works as the first which have been established on this coast. Although located in Oregon, several of the heaviest stockholders are residents of this State. The first iron produced at these works was on the 24th of August, 1867, when about six tons of very excellent metal was run out, which was forwarded to this city and distributed among our foundrymen, by whom it was worked up, and pronounced to be of very superior quality. Quite a large shipment was received here from these works, a few weeks since, which was duly noticed in our columns. The works are now in constant operation, turning out about eight tons of pig iron each twenty-four hours. It is to be hoped the time will soon arrive when this coast will be able to place itself entirely independent of the East for all the iron which enters into its commercial requirements.

New Patents Issued to Pacific Coast Inventors.

Specially reported by the U. S. Patent Office, Washington, D. C., to Dewey & Co., American and Foreign Patent Solicitors, and Publishers of the Mining and Scientific Press.

Issued for the Week ending June 30, 1868.

79,400.—Improved Reamer for Wells.—A. J. Salisbury, San Buenaventura, Cal., assignor to self and Thomas R. Bard, of same place:

I claim the combination of the branches A, cross-bar B, toggle-bars D, shank C, and spring S, substantially as and for the purpose set forth.

79,425.—Improvement in Machine for Kiln Drying.—Ashbel B. Winegar, San Francisco, Cal.:

1. I claim a machine for drying salt and other substances, composed of the furnace A, pan or disk B, the radial arms G, G, spindles H, H, with the hoes or stirrers I, I, I, attached to them, with the movable bar J, for turning them in different directions, so as to continually stir and turn the salt in the pan or discharge it at will from the periphery, the whole constructed and arranged to operate substantially as herein described.

2. The sliding board or plate O, at the bottom of the hopper, operated by the spring P, cords S, lever T, and beveled pinion U, substantially as and for the purposo specified.

79,453.—Improved Furnace and Condenser for Reducing Quicksilver and other Ores.—Thos. W. Dresser, San José, Cal.:

1. I claim the vapor-tight hopper J, and siphons u, u, in combination with this or other smelting furnaces substantially as described,

2. The division plate H, H, and the endless carriage F, constructed and arranged to operate substantially as and for the purpose described.

3. The combination with a vapor-tight furnace A, provided with a hopper J, either of the pumps Q, R, S, substantially as and for the purpose specified.

Fires.—As many fires occur in the city of New York in one week, as takes place in Paris in an entire year.

An Important Textile Discovery.

The Department of State has received information from the U. S. Consul at Lambayeque, Peru, that an important discovery has recently been made in Peru of the silk plant. Preparations are being made to cultivate it upon a more extensive scale. The shrub is three or four feet in highth. The silk is inclosed in a pod, of which each plant gives a great number, and is declared to be superior in fineness and quality to the production of the silk worm. It is a wild perennial, the seed small and easily separated from the fiber; the stems of the plants producing a long and very brilliant fiber, superior in strength and beauty to the finest woven thread. Small quantities have been woven in the rude manner of the Indians, and the texture and brilliancy are said to be unsurpassed.—*Am. Farmer.*

We are the more inclined to place confidence in the above alleged discovery from the following facts: Thirty-three years ago this summer, the mate of a vessel arrived in Beverly, Mass., from a whaling voyage in the Pacific Ocean, and presented to the editor of this paper, among other curiosities, several pods, similar in appearance to the pod of the common milk-weed, but something over twice as large. Its color was dark brown, and the shell quite hard, so much so as to require a smart blow to break it. When opened, a large handful of beautiful, silky fiber was obtained, the seeds of which were very small and fine, and easily separated from the fiber. The fiber exceeded in smoothness and gloss the finest reeled product of the silk worm we ever saw, and according to the best of our recollection, was something over four inches long, and quite strong, lying perfectly straight and even in the pod.

It was our intention at the time to submit the fiber to the inspection of some party competent to judge of its value; but before a convenient opportunity occurred, the pods with the data furnished had been mislaid and lost, and the donor had disappeared.

We have frequently, in the years that have since passed, inquired of persons who were familiar with the islands of the Pacific Ocean and the South American Coast, if they had ever seen anything of the kind in those quarters; but have never been able to hear of it. Our impression is that the discovery, as above reported by the U. S. Consul at Lambayeque, Peru, is identical with the product brought us thirty-three years ago. Our informant assured us it grew wild near some port which he had visited, and that he had brought the sample home under the impression that it might furnish a good substitute for our sea island cotton. If such a product as that to which we refer can be grown cheaply, we see no reason why it may not prove equally as valuable to the world as either cotton, silk or hemp. We shall watch with much interest for further developments with regard to what we are constrained to believe will yet prove a very valuable discovery.

Sherman Day for Surveyor General.—The telegraph has announced the nomination, for United States Surveyor of California, of Hon. Sherman Day, of Oakland. Of course such a nomination cannot fail of being confirmed by such a Senate as now constitutes the higher branch of our national Legislature. A more honest and capable man for that position cannot be found this side of the Rocky Mountains. Mr. Day is a mining and civil engineer by profession, and a man of sterling worth and undoubted integrity. The President has honored the office and himself by making so judicious and proper a nomination.

No Place Like Home.—The N. O. *Picayune* says that all the attempts of the Southern people to establish colonies in Honduras, Brazil, and other foreign countries, have failed. The same paper says that the people of the South will soon learn that their own country, after all, is the best in the world, if they will only stay in it and devote themselves earnestly to its welfare.

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board.

San Francisco, July 18, 1868.

City Stocks.

The miscellaneous stock market is quite inactive. Sales of San Francisco Gas stock were made at $75; Omnibus Railroad at $75, and North San Francisco Homestead at $30. The annual meeting of the Pacific Insurance Company was held on the 14th inst. Income for the fiscal year ending June 30th, $766,215, of which $399,708 was for premiums on fire risks and $227,751 for marine. Disbursed—fire losses, $194,993; marine losses, $132,259; dividends, $60,000. Assets, $1,433,038; surplus over capital, $433,038; liabilities, $25,070. Risks written during year—fire, $33,900,983; marine, $16,843,513—total, $50,744,496. Risks in force June 30th—fire, $29,112,615; marine, $2,273,497—total, $31,386,012. C. A. Laton, Esq., the late efficient and obliging Marine Secretary of the above company, goes East shortly to take charge of the agency there. After a thorough inspection of the field, both in the Atlantic, Western and Southern States, Mr. Laton, according to direction of the Board, will establish a new department in the Northwestern States, with head quarters at Chicago, Ill., of which he will be General Agent. Andrew Baird has been selected to fill his place here. The following quarterly dividends have been announced since our last issue: Fireman's Fund Ins. Co., 3 per cent. for quarter ending June 30th; National, ditto; California, 2 per cent. per month. The following are the monthly dividends: Bank of California, 1 per cent.; California Steam Nav. Co., 1½ per cent.; North Beach Railroad Co., ½ per cent.; Omnibus Railroad Co., ½ per cent. Western Union Telegraph Co., $2 per share in currency; Cal. State Telegraph Co., $1 per share. The French Savings and Loan Society pay a dividend of 10 per cent. per annum, free of Federal tax, for the six months ending with June. At the close, Spring Valley Water Co., sold at $66 50.

Mining Share Market.

During the period under review, ordinary activity prevailed in the mining share market, and the transactions included the usual list, Hale & Norcross and Overman having been the most prominent. A general improvement is manifest, and outsidere exhibit an increased disposition to enter the field. At the close, the market denoted more tone, and the prospects are fair for a materially improved business.

Savage—has been in moderate request, improving from $140 to $143, declining to $138, and at the close selling at $140. The ore extracted during the week ending July 11th, amounted to 1,351 tons, showing an approximate yield of $41 31 per ton. On the fourth station, north mine, the prospecting drift is getting into gypeum as they approach the Gould & Curry line—which is an unfavorable feature. In the south mine of the same level, the breasts show an improvement over last week. On the fifth station, north, there is no change in the main northwest drift, nor in the west cross-cut. The east cross-cut, which has been entirely in porphyry, is said to be getting into some quartz with water, and ore may be found in that direction. In the south mine, same level, the breasts look better than heretofore, and the quality is steadily improving. The south drift is still in good ore. Some progress has been made in opening the sixth station, but the ground is so very bad that even with the large force employed, little headway can be made. From the usually interesting and elaborate annual report of this company for the fiscal year ending June 30, 1868, we take the following statements:

Ore—On hand, July 1, 1867, tons	2,865	
Extracted during the year	87,342	
		90,207
Reduced, tons	84,627	
Sold, tons	3,897	
		88,524
On hand, July 1, 1868		1,683

Average yield—1st class, $359 52; 2d class, $78 16; 3d class, $37 31—total average, $40 84. Cost of production, $7 21; reduction, $13 74—total cost per ton, $20 95.

RECEIPTS.

Bullion	$3,484,185 72
Ore sold	21,897 25
Premiums	9,999 91
Other receipts	14,751 54
Cash on hand, July 20, 1867	77,715 58
	$3,608,550 00

DISBURSEMENTS.

Dividends	$1,548,500 00
Customs mills	1,006,827 61
Reduction, etc.—Co. mills	226,159 21
Labor	311,277 74
Timber and lumber	102,107 52
Fuel	50,368 93
Taxes	40,635 13
Legal expenses	46,169 40
Salaries	20,650 00
Supplies, etc.	52,268 45
Freight on bullion	27,857 66
Other disbursements	69,618 80
Cash on hand, July 11, 1868	106,319 50
	$3,608,550 00

The assets, exclusive of mine and mill property, amount to $223,403, and the liabilities to $29,358, showing a surplus of $194,045. The property assets, in round numbers, are estimated at $250,000. The following are interesting comparisons:

	1866-67.	1867-8.
Yield of ore, per ton	$41 97	$40 84
Cost of production	7 81	7 21
Cost of reduction	14 04	13 74
Total cost	21 85	20 95
Profit	20 02	19 99

Total ore product from date of organization, nearly seven years ago, 270,521 tons; yield in bullion, etc., $11,327,700; assessments, $188,000; dividends, $3,560,000. The officers of the company for the ensuing year are: Trustees, Alpheus Bull, M. Mayblum, J. D. Fry, A. Hayward, Thomas Bell; President, Alpheus Bull; Secretary, E. B. Holmes; Treasurer, W. C. Ralston; Superintendent, Charles Bonner.

Chollar-Potosi—has been less active, declining from $211 to $130, and at the close realizing $190. From the annual report for the fiscal year ending May 31st, we glean the following: Amount of ore extracted from the mine, 70,330½ tons, of which 29,792 tons came from the Third Santa Fé section and 15,671 from the Blue Wing. The total quantity of ore milled was 77,957¼ tons, and the following figures will illustrate the cost of production:

Average yield per ton	$24 14
Cost of milling per ton	$14 75
Actual cost of extracting per ton	4 24
Filling mine and dead work per ton, extracted	33⅓
Taxes per ton	22½
Expenses at New Works per ton	1 87
Incidentals per ton	26
	21 68
Net yield per ton	$2 46

The amount expended for account of New Shaft was $131,835 86. In the old mine, as nearly as can be calculated, there are 33,000 tons of ore that will afford a small margin over expense of mining and milling. The new shaft penetrated the west wall at a depth of 913 feet from the surface. Here a station has been made, and an incline at an angle of 45 degrees has been driven to the extent of 266 feet. Two stations have been made in the incline—one at 1,000 and the other at 1,100 feet, leaving 247 feet of unprospected ground overhead. They are about to drift east from 1,100 level, and the incline will be continued down to another station. These deep driftings are of great importance, as upon their favorable development depends the success of the company in the future. We condense the following from the Secretary's report:

RECEIPTS.

Balance on hand per last statement	$108,947 21
Bullion product	1,873,306 18
Ore sold	32,115 31
Assessment account	182,000 00
Sundries	5,259 36
	$2,201,628 6

DISBURSEMENTS.

Dividends	$353,200 00
Labor	320,821 97
Timber and lumber	109,723 91
Taxes	19,268 69
Reduction	1,136,203 96
Freight account	22,239 50
Sundries	131,002 48
Cash on hand at date	119,148 35
	$2,201,628 06

The following are the officers for the ensuing year: Trustees, A. K. P. Harmon, Thos. Bell, Thomas Sunderland, Wm. E. Barron, A. Hayward, Chas. Hosmer, Lloyd Tevis; President, A. K. P. Harmon; Vice-President, Thomas Sunderland; Secretary, W. E. Dean; Superintendent, Isaac L. Requa. During the week ending July 10th, 820 tons of ore were extracted, against 1,050 the previous week. The Blue Wing stope shows an increased yield over that of the previous week of about fifteen tons per day, and the quality is said to equal that of any produced from that deposit. The water is now no impediment to drifting.

Imperial—declined from $123 to $118, rose to $126, then sold at $122@125, and closed at $126. Receipts of bullion for July account, $12,843 37. They have commenced to run a drift north, directly opposite the south drift, and after running north about forty feet, will turn and run west, parallel with main drift. It is proposed to run it within a short distance of the north line. On the 17th inst. no change was noticeable in either drift; made two feet in main and three in north since the previous day.

Kentuck—sold within a range of $369@363, and closed at $370. July receipts of bullion to date, $26,177 25.... Gold Hill Quartz at $75@70, closing at $72. First shipment of bullion, $1,896 18. During the week ending July 13th, extracted 148¾ tons of ore.... Ophir rose from $14 to $22 60, assessment delinquent, and closed at $23. New shaft was 342 feet deep on the 15th inst.—rock very hard and water slack.

Crown Point—advanced from $82 to $92, and at the close sold at $89 50. Receipts of bullion to the 14th inst., for July account, aggregate $12,807 27. The stopee going south between the 700 and 800 levels, are said to be showing very well, but above the 700 it looks less favorable. The principal work is now being done in the south stopes. On the 17th inst., the drift on the 900 level was in fifty feet, and running in soft rock.

Gould & Curry—is in better request, rising from $97 50 to $115, then selling at $107@110 50, and at the close sold at $113 50. The Bonner shaft is now 1,000 feet in depth, and on the 14th inst. they encountered a seam of quartz, with clay, two inches wide, coming in from the southwest. On the 10th, these developments continued to look well. Upon breaking some boulders taken from the South Tunnel croppings, considerable free gold was found, similar to the fine surface rock that used to be taken out of the upper Tunnel in olden times. Average assays on the 13th, gave $42 50 to the ton, and on the 14th, $126 47. The tunnel is now opened so that several men can work, and if the deposit of ore continues, it is thought they will soon be able to extract from twenty to thirty tons of millable ore daily.

Overman—rose from $70 to $89, and closed at $88. They have commenced extracting ore from the 361 level, and it is believed they will be able to take out from forty to fifty tons daily. No pay ore has yet been found on the 500 level. Ore assayed on the 14th inst., showe $30 71 to the ton....Amador pays a dividend of $6 per share on the 20th inst....Belcher levied an assessment of $25 per share on the 13th inst.

Yellow Jacket—declined from $1,275 to $1,155, and closed at $1,222 50. The annual meeting takee place next Monday at Virginia City. It is believed that this company will make a very favorable showing, and we would not be surprised to see the announcement of a dividend before long.

The sales in the Board during the past week have been as follows: Open sessions, $608,596; regular sessions, $1,478,350—total, $1,985,945.

The walls of a china manufactory in Harley, Staffordshire, having become cracked and full of crevices, it was found on examination, that it arose from the fact that the bed of coal under the soil had taken fire. Immense quantities of water was poured on it, but without avail. A similar coincidence exists in Sarrebruck, where the fire underground extends several thousand feet square, and on the surface there reigns a continual spring. Even in the winter the trees remain green, and flowers are frequently found.

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It is simple, concise, and well arranged. It seems to be a work of great value.—*John Swett.*

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I believe the work will be a valuable and much needed addition to our school text-books.—*Hermon Perry.*

You have brought the results of a profound analysis, and made them available, in a practical form.—*J. H. Brayton.*

I can recommend it particularly to my young friends of the legal profession, as a source from which they may be able to learn much of value as special pleaders and as advocates at the forum.—*John Curry.*

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Prof. Layres plunges at once "*in medias res.*" He seizes a sentence (which is the unit in composition, whether written or spoken,) holds it up before you; tears it to pieces before your eyes—or rather, we should say, neatly and skilfully dissects it—displays one by one its several parts; makes you thoroughly acquainted with each, in its entirety; and then shows you how to put them together again. A series of such experiments, increasing in complexity so gradually that you do not feel the difficulty, and the thing is done; you are master of the subject.—*Mining and Scientific Press.*

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Address DEWEY & CO., Mining and Scientific Press, San Francisco.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE.
Alameda Coal, June 25, $1	Aug 4	Aug. 21
Amador Co., dividend, $6 per share	Payable July 20	
Avello, Lauder co., Nev. June 15, $10	July 17	Aug. 3*
Alpha Cons., Storey co., Nev., June 23, $5	July 27	Aug. 15
Adriatic, Storey co., Nev	Special Meeting	Aug. 15
Adella, Sierra co., May 13, $1	June 19	July 20*
Bullion, Storey co, May 25, $10	Sale	July 29
Bacon, Storey co., Nev., div	Payable	June 19
Bear River, Nevada co., June 10, $1	July 29	Aug. 17*
Chiplonena, Mexico, July 9, $5	Aug. 13	Aug. 31*
Cherokee Flat B. G., Butte co., July 1, $5	Aug 4	Aug 21
Crown Point, dividend, $7.50	Payable	July 11
Enterprise, Meadow Lake, July 11, $4	Aug. 11	Aug. 27
El Tesoro, Mex., June 18, 25c	July 20	August 16
Empire M. & M., Nev., dividend $6	Payable	May 15
Fogus, Amador co., June 3, $5	July 21	Aug. 12*
Folsom St. & F. Pt. R.R. Co., June 19, $5	July 20	Aug 8*
Gold Hill Q. M. & M.—dividend, $7 50	Payable	July 13
Gold Hill Tunnel, Storey co.	Annual Meeting	July 18*
Globe, Alpine co., May 23, $2	June 30	July 18*
Golden Rule, Tuolumne co, div. 50c ₱ sh	Payable	June 26*
Hope Gravel, Nevada co, June 15, $1	July 22	Aug. 12*
Imperial, Storey co, Nev., div	Payable	June 18
Kentuck, div., $25 per share	Payable	July 20
Kohler Bros., L. C., July 2, 25c	Aug. 6	Aug. 27
Kanaka, May 30, 40c	July 3	July 20
Lady Bryan, Storey co., May 25, $1	July 6	July 25
North Star, dividend, $5	Payable	June 16
Ophir, Storey co, Nev, June 15, $4	July 20	August 10
Osceola, May 25, 50c	Payable	Immediately
Pacific Unassessable, div	Payable	June 18
Qua'l Hill, Calaveras co., June 26, $10	July 23	Aug. 17
Rising Star, Idaho Ter., June 23, $50	Aug. 8	Sept. 9
Rising Star, Idaho	Special Meeting	Aug. 15
Santiago, Silver City, dividend	Payable	July 9
Savage, Virginia, Nev, dividend, $15	Payable	July 10
Sierra Genon, Nevada, June 30, $3	July 30	Aug. 21
Senator, Storey co, Nev., June 9, 10c	July 15	July 31*
Sand Spring Salt, dividend $1	Payable	June 5
United States, Storey co., Nev., June 29, $1	Aug. 3	Aug 19
Union, Storey co., Nev., June 2, $3	July 7	July 28
Virginia & G. H. Water Co.	Dividend, payable	May 16
Yellow Jacket, Gold Hill, Nev	Annual Meeting	July 20
Yosemite, Lauder co., Nev., June 9, 75c	July 16	Aug. 5*

*Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD.

FRIDAY EVENING, July 17, 1868.

MISCELLANEOUS STOCKS.	Bid.	Asked.
United States 7 3-10ths Bonds, June issue	$ 74	76
Legal Tender Notes	70½	70¾
California State Bonds, 7s, 1857	90	95
San Francisco Bonds, 10s, 1851	102	103
San Francisco City Bonds, 6s, 1855	83½	—
San Francisco City and County Bonds, 6s, 1858	83	—
San Francisco City and Co. Sch'l B'ds, 7s, 1866	87½	—
San Francisco City and Co. Bonds, 7s, 1862	87	—
San Francisco City and Co. Bonds, 7s, 1864	84	85
San Francisco City and Co Bonds, 7s, 1865	84	85
San Francisco City and Co. Judg. Bds. 7s, 1863	84	85¼
San Francisco City and Co. Judg. Bds, 7s, 1864	8½	85
Sacramento City Bonds	22	25
Sacramento County Bonds, 6s	75	—
Marysville Bonds, 10s	75	85
Stockton City Bonds	70	85
Yuba County Bonds, 10s	75	80
Santa Clara County Bonds, 7s	70	85
Butte County Bonds, 10s, 1860	70	75
San Mateo County Bonds, 7s	—	70
California Steam Navigation Co	66	—
Spring Valley Water Co	66	67
State Telegraph Co	25	—
GAS COMPANIES.		
San Francisco Gas Co	75½	—
Sacramento Gas Co	80	—
RAILROADS.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	76	80
Central Railroad	50	55
North Beach and Mission Railroad	61	—
Front Street, Mission and Ocean Railroad	11	12
BANKING INSTITUTIONS.		
California, Loan and Savings Society	—	—
Pacific Bank	97½	—
The Bank of California	137	138
INSURANCE COMPANIES.		
Firemans' Fund Insurance Co	85	86
Pacific Insurance Co	117	120
San Francisco Insurance Co	—	100
Merchants' Mutual Marine Insurance Co	470	485
California Insurance Co	1300	1400
Union Insurance Co	88	89
California Home Insurance Co	—	—
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	78	80
National Insurance Co	—	—
Builders' Insurance Co	90	—
MINING STOCKS—WASHOE DISTRICT.		
Alpha	47	47½
Baltimore American	—	—
Belcher	155	160
Bullion, O. H	26½	27
Crown Point	89	90
Confidence	35	40
Chollar-Potosi	190	191
Daney	5	7½
Exchequer	23	25
Empire Mill and Mining Co	150	155
Gould & Curry	115	117
Gold Hill Quartz	70	80
Hale & Norcross	77	78
Imperial	125	126
Kentuck	360	370
Lady Bryan	23	24
Ophir	14½	15
Overman	87½	88
Savage	155½	159
Sierra Nevada	28½	29½
Yellow Jacket	1225	1230
Golden Rule, California	10	15

San Francisco Market Rates.

Wholesale Prices.

FRIDAY, July 17, 1868.

Flour, Extra, ₱ bbl	$6 25	@$7 50
Do. Superfine	5 75	@ 6 25
Corn Meal, ₱ 100 lbs	3 25	@ 3 50
Wheat, ₱ 100 lbs	1 80	@ 2 00
Oats, ₱ 100 lbs	2 15	@ 2 35
Barley, ₱ 100 lbs	1 90	@ 2 10
Beans, ₱ 100 lbs	3 00	@10 00
Potatoes, ₱ 100 lbs	75	@ 1 50
Hay, ₱ ton	10 00	@15 00
Live Oak Wood, ₱ cord	9 00	@10 00
Beef, extra, dressed, ₱ lb	8	@ 10
Sheep, on foot	3 00	@ 3 50
Hogs, on foot, ₱ lb	5	@ 7
Hogs, dressed, ₱ lb	8	@ 10
GROCERIES, ETC.		
Sugar, crushed, ₱ lb	14¾	@ 15
Do. China	10	@ 11½
Coffee, Costa Rica, ₱ lb	15½	@ —
Do. Rio	—	@ 17
Tea, Japan, ₱ lb	65	@ 85
Do. Green	90	@ 1 25
Hawaiian Rice, ₱ lb	—	@ 9
China Rice, ₱ lb	6	@ 6¼
Coal Oil, ₱ gallon	40	@ 45
Candles, ₱ lb	15	@ 18
Ranch Butter, ₱ lb	30	@ 34
Isthmus Butter, ₱ lb	30	@ 32½
Cheese, California, ₱ lb	13	@ 15
Eggs, ₱ dozen	35	@ 40
Lard, ₱ lb	13	@ 15
Ham and Bacon, ₱ lb	12	@ 16
Shoulders, ₱ lb	9	@ 10
Retail Prices.		
Butter, California, fresh, ₱ lb	35	@ 40
do. pickled, ₱ lb	25	@ 35
do. Oregon, ₱ lb	15	@ 25
do. New York, ₱ lb	35	@ 40
Cheese, ₱ lb	20	@ 25
Honey, ₱ lb	25	@ 30
Eggs, ₱ dozen	45	@ 50
Lard, ₱ lb	15	@ 17
Ham and Bacon, ₱ lb	23	@ 25
Cranberries, ₱ gallon	85	@ 1 00
Potatoes, ₱ lb	2	@ 3
Potatoes, Sweet, ₱ lb	—	@ —
Tomatoes, ₱ lb	5	@ 6
Onions, ₱ lb	4	@ 5
Apples, No. 1, ₱ lb	4	@ 5
Pears, Table, ₱ lb	5	@ 7
Plums, dried, ₱ lb	11	@ 13
Peaches, dried, ₱ lb	10	@ 11
Oranges, ₱ dozen	—	@ 75
Lemons, ₱ dozen	—	@ 75
Chickens, apiece	50	@ 75
Turkeys, ₱ lb	21	@ 25
Soap, Pale and C. O	14	@ 15
Soap, Castile, ₱ lb	15	@ 16

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than th following quotations.

FRIDAY, July 17, 1868

IRON.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar 1@1¼c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1¾@1¾c ₱ lb; Plate, 1¾c ₱ lb; Pipe, 1¾c ₱ lb; Galvanized, 2¼ ₱ lb.

Scotch and English Pig Iron ₱ ton	$42 60	@$45 00
White Pig ₱ ton	35 00	@ 38 00
Refined Bar, bad assortment ₱ lb	— 02	@ — —
Refined Bar, good assortment, ₱ lb	— 02¼	@ — —
Boiler, No. 1 to 4	— 03¼	@ — —
Plate, No. 5 to 9	— 03¾	@ — 04
Sheet, No. 10 to 13	— 03¾	@ — —
Sheet, No. 14 to 20	— 04	@ — —
Sheet, No. 24 to 27	— 04	@ — —
COPPER.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb		
Sheathing, ₱ lb	— 30	@ — 32
Sheathing, Yellow	— —	@ — 22
Sheathing, Old Yellow	— 11	@ — —
Bolts	— 21	@ — 22
Composition Nails	— 21	@ — 22
TIN PLATES.—Duty: 25 ₱ cent. ad valorem.		
Plates, Charcoal, IX, ₱ box	12 50	@ 13 00
Plates, I C Charcoal	11 00	@ 11 50
Roofing Plates	10 50	@ 11 00
Banca Tin, Slabs, ₱ lb	— —	@ — 30
STEEL.—English Cast Steel, ₱ lb	— 10	@ — 12½
QUICKSILVER.—₱ lb	— 55	@ — 60
LEAD.—Pig, ₱ lb	— 7½	@ — 8
Sheet	— 10	@ — —
Pipe	— 11	@ — —
Bar	— 9	@ — 9½
ZINC.—Sheets, ₱ lb	— —	@ — 11
BORAX.—California, ₱ lb	—20	@ — 23

NEW INCORPORATIONS.—Articles of incorporation have been recently filed in the County Clerk's office in this city as follows:

SHER BARSEL MUTUAL AID ASSOCIATION. July 9th. Directors: G. Baum, Charles Groslicht, L. Phillips, S. Guttman and S. May.

EASTPORT, COOS BAY COAL MINING CO. (Oregon). Capital stock, $250,000; 500 shares, $500 each. Trustees: A. Haywood, Q. W. Raymond, J. T. Dean, W. H. Sharp, Oliver Eldridge, L. Stovens and J. L. Pool.

GLOBE G. & S. M. CO.—July 13th. Increase of capital stock from $100,000 to $500,000.

POINT LOBOS AVENUE HOMESTEAD ASSOCIATION.—July 16th. Capital stock, $50,375-divided into shares of $325 each. Directors: A. Mills, J. R. Farish, Henry Mahan, J. W. Nye, C. Railsback, Henry M. Rosekrans and P. H. Blake.

SAN JOSE AND SANTA CLARA RAILROAD CO.—July 16th. Capital stock, $200,000; 2,000 shares, $100 each. Directors: L. P. Van Schaick, A. Pfister, Sam. Q. Broughton, Isaac Branham and John Trimble.

ELECTION OF OFFICERS.—SAVAGE M. Co. Trustees, Alpheus Bull, Thos. Bell, A. Hayward, M. Mayblum, and J. D. Fry: President, Alpheus Bull; Secretary, E. B. Holmes; Treasurer, W. C. Ralston; Superintendent, Chas. Bonner.

GOLDEN RULE M. CO.—July 14th. Trustees, J. H. Turney, J. T. Boyd, W. Bosworth, R. L. Pasteur and E. V. Hathaway; Secretary, J. B. Russell.

SILVER SPROUT M. CO.—July 11th. Trustees, Nathaniel Page, E. B. Mott. Jr., A. Wingard, A. B. Paul and Wm. N. Wade; President, Nathaniel Page; Secretary and Treasurer, T. B. Wingard.

SULPHURETS;

What they are;
How Assayed;
How Concentrated;
And How Worked;

With a Chapter on the

BLOW-PIPE ASSAY OF MINERALS.

By WM. BARSTOW, M. D.

Published by A. Roman & Co., San Francisco.

For sale at this Office.—Price, One Dollar.

With the aid of this Book, the miner can assay his own ores, requiring but few materials, etc., except such as are generally to be found in the interior towns. 21v13tf

Mechanics' Fair Daily Press.



Having received permission from the Mechanics' Institute, we shall print the

Third Volume of the Fair Daily Press,

in the Grand Pavilion, during the approaching Exhibition, which opens on the 8th day of August, 1868.

Our publication of the DAILY PRESS, in the Pavilion in 1864 and 1865, met with marked success, rendering ample satisfaction to its patrons and numerous visitors attending the Fairs. We are now confident that, with improved facilities, experience, and active efforts, the present volume will be made still more attractive and useful for the increased thousands who will visit the Exhibition, and receive, gratitously, each issue

Fresh from the Press.

New and interesting features will be adopted. Each number will contain a large amount of sprightly local matter, together with much permanently valuable reading.

A limited portion of the paper will be allotted to a choice class of advertising, furnishing a favorable opportunity such as is rarely met with. Following are our uniform

Rates of Advertising:

One column during the Fair	$260 00
One-half column during the Fair	130 00
Per line (space of small type) during Fair,	2 00
Per line, 10 lines or more, during Fair	1 75
Per line, 30 lines or more, during Fair	1 50
Per line for single insertion	25

Particular attention will be given to preparing engravings, inserting advertisements in conspicuous, novel and attractive form; we will otherwise assist advertisers in getting up their notices, when desired.

Notices of the Press:

Following are a few of the many compliments paid the previous volumes of the DAILY FAIR PRESS:

THE SCIENTIFIC PRESS proprietors strike off and give away thousands of their little sheet, entitled THE MECHANICS' FAIR DAILY PRESS. There were great crowds all the evening about the telegraph and the presses, many of whom had their first sight at the practical working of these great motors of civilization.—*S. F. Evening Bulletin, Sept. 7, 1864.*

SCIENTIFIC PRESS.—A printing office has been established at the Mechanics' Fair, and Messrs. DEWEY & Co., the enterprising publishers of the MINING AND SCIENTIFIC PRESS, are issuing from it a handsome double-sheet daily, which is a credit to themselves, its editors, and to the Fair.—*S. F. Morning Call, Sept. 8, 1864.*

THE MECHANICS' FAIR DAILY PRESS is the title of a very neat quarto paper published at the Industrial Fair Pavilion, by DEWEY & Co., of the MINING AND SCIENTIFIC PRESS. It reflects great credit, as does the weekly, upon the enterprise and ability of the publishers. We want it regularly.—*Reese River Reveille.*

Parties who intend to advertise will do well to subscribe at once for the amount of space wanted.

DEWEY & CO.,

Publishers of the MINING AND SCIENTIFIC PRESS, Patent Agents, Book and Job Printers, corner of Clay and Sansome streets, San Francisco.

San Francisco Prices of Copper Ores.

SAN FRANCISCO, July 17, 1868.

We give the following as an approximate price at which copper ores can now be sold in this city. There is no sale for ores which assay less than 12 per cent. The late reduction in price is on account of the advance of freight:

	Per ton.		Per ton.
12 per cent. ore	$16 00	22 per cent. ore	$43 56
13 " "	18 62	23 " "	46 45
14 " "	20 20	24 " "	49 33
16 " "	23 35	26 " "	52 22
16 " "	26 23	26 " "	55 11
17 " "	29 12	27 " "	58 00
18 " "	29 91	28 " "	60 89
19 " "	34 90	29 " "	63 77
20 " "	37 78	30 " "	66 66
21 " "	40 67	31 " "	69 55

These prices, we believe, will be found substantially correct, and can be realized at this date.

Favorable to Inventors.—Persons holding new inventions of machinery and important improvements, can have the same illustrated and explained in the MINING AND SCIENTIFIC PRESS, free of charge, if in our judgment the discovery is one of real merit, and of sufficient interest to our readers to warrant publication.

Mining Summary.

THE following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County.

Miner, July 4th: Arnold & Morris will start work on the Leviathan soon.

The Globe Co. are having the front of their new tunnel timbered.

Chronicle, July 4th: Gypsum is found at Markleeville, Alpine and Silver Mountain.

San Francisco *Times*: A correspondent writing from Bullion under date of July 10th, says: The Mount Bullion Co. are running a tunnel to cut the Union, two Eastern Slopes, Mount Bullion, Star of the West, Red, White and Blue, and Highland Mary lodes, any one of which gives good assays from top rock. The whole length of the tunnel to cut the Highland Mary lode will be about 4,500 feet, at which point the depth will be 1,200 feet. The distance to the Union ledge is some 900 feet, and the depth at that point is between 500 and 600 feet. The tunnel is being run by contract, with three shifts of men, who average 60 feet per month. The company owns the water front along the river for 1,800 feet above the mouth of their tunnel, which gives them a fall of 28 feet ten inches, with the control of from 3,000 to 4,000 inches of water at the lowest stage of the river.

The Monitor Consolidated Co. is located a half mile below, on the east bank of the river, and on the north side of Monitor creek, and their tunnel runs nearly parallel with that of the Imperial Co. The whole length of their projected tunnel is about 6,000 feet, with a depth of over 1,600 feet. They will cut the Union and Eastern Slope leads in addition to those cut by the Imperial Co., and when completed will be in the same remarkable formation as is the Tarshish mine, and some 700 feet below the lowest workings of that mine.

Amador County.

Ledger, July 11th: James Ruth has discovered a vein of steatite (soapstone) on the ranch of Van Dusen, near Newtonville, of great purity, and in large quantity. The veins of soapstone in the mountains above, usually contain so much iron as to be nearly useless for building purposes. This vein is without iron, uniform in color and of fine texture, and easily worked.

Jackson *Dispatch*, July 11th: We were shown a large chunk of solid gold, on Wednesday last, weighing a fraction less than 14 ozs., and valued at $228, which was taken out of a claim near the Gate, about one mile from this place, on the day previous, by a party of Chilenos.

Kern County.

Havilah *Courier*, July 4th: The Anaconda lode, in the New El Dorado district, and situated on the same range of hills in Kelsoe Valley as the Esperanza or Italian lode, has a tunnel run on it about 80 ft. or more, showing a solid well-defined lead 2½ ft. thick, of precisely the same character of rock and equally as rich, and by many thought to be richer than the Italian lode. Work is being prosecuted on the lead and the owners contemplate putting up a mill as soon as the lead is sufficiently developed.

. . . The St. Paul is a lead lately discovered by Jas. A. White and F. Fanning. It has not yet been worked to any extent. Three or four cuts have been run into the hill at different places on the lead, showing a lead about six inches thick and widening out—the rock prospects very evenly and very rich, and is pronounced by all who have seen it to be the richest rock yet discovered in the district, with the exception of the Rogers & Keeney lead. The owners are preparing to commence work in a very short time, and will put up arastras to work the rock for the present. These leads are very eligibly situated, being within a few hundred yards of a fine stream of water sufficient to run a mill with an abundance of timber close by—all that is necessary to carry on operations successfully. Other leads have been discovered near these, and are being opened by the discoverers, which promise well.

Mariposa County.

Mail, July 10th: A correspondent writing from Hite's Cove on the South Fork of the Merced river, says the new mill of Hite & Co is rapidly approaching completion, and will run 20 stamps.

At the Lafayette mine, owned by D. Ghirardelli, of Oakland, a vein was struck 18 in. in width, that will pay from $30 to $40 per ton. Crushing to commence soon.

Gazette, July 10th: Hugh Diamond has purchased John Flannigan's interest in the mine owned by Flannigan & McKee, near Coulterville. The mine has a shaft nearly 200 ft. in depth. The mill is a first class mill with eight stamps for a battery. We were shown some specimens taken from the shaft which showed free gold, and if they have much such rock it will yield a good income to the owners.

Nevada County.

Gazette, July 9th: A gentleman informs us that a number of men are engaged on the South Fork of Poorman's Creek in gathering float rock left there years ago by placer miners. They have about 300 tons piled up ready for hauling and crushing. This rock is said to yield from $15 to $30 a ton. Palmer & Everingham's custom mill will be ready for work in about 60 days.

July 13th: The North Star Co. had employed last month in their mine and on the ground above, 208 men. This is the largest force employed in any mine in the county. The North Star is opened in better shape, and more extensively, than any other mine in the State, which enables them, although the vein is not large, to employ a large force, and take out a large quantity of ore. A dividend was recently declared of $15,000, amounting to $5 a share.

We learn from Messrs. Coleman and Crittenden, owners in the Nebraska cement claims at French Corral, that their cement mill is completed, and it is their intention to commence crushing to-day.

Transcript, July 10th: The miners of Moore's Flat are piping away with a tremendous pressure of water, and a large range of gravel will be washed out this season. Hickey & Co., near town, are running 400 in. of water with a pressure of 200 ft., and have excellent prospects for a good yield. Many other companies in the vicinity are doing first rate.

July 11th: Cozzens & Atkins, the purchasers of the Gardner hydraulic claims at Little York, have already commenced work. One set of claims started up on Monday, and another will be put in operation next week. The ditches belonging to this property are now running about 1,000 inches of water, all of which is being sold to the miners at Little York and Gold Run.

July 12th: For some time Union Hill has been very dull, but lately a new start has been made in mining matters. Some of the claims are at work, and two others will start next week.

July 14th: The miners in the vicinity of French Corral are doing first rate. Several mills are in operation, crushing the cement. The Nebraska Co., which built a mill some time since, is paying well, and it has been proved that the reduction of cement by mill process, is profitable.

Grass Valley *Union*, July 9th: The Idaho Co. are about erecting a 15-stamp mill near their hoisting works. The Idaho rock is looking splendid, and there is no doubt but with their own mill the stockholders of the company will soon realize a fortune.

July 14th: Engineer McDermott, of the Empire mill, of this place, went below yesterday to superintend the building of a new engine, the largest and finest one in the State, which is used for mining purposes. New pumps are also to be put in when the Empire will be all right for fifty years to come.

Ennis & Co., of Red Dog, after a three days run, cleaned up $420, seven men having been at work. This makes the handsome average of $20 a day to the hand. The Brown Bros. of You Bet, after a run of 21 days, cleaned up $6,000.

Gazette, July 15th: The original owners of the Sneath & Clay took out of the mine nearly $200,000, half of which was clear profit, over and above the expenses of erecting the mill and hoisting works. The mine paid during the time it was worked by the New York and Grass Valley Co., and the suspension was occasioned by mismanagement in failing to keep the "dead work" ahead; and partly, perhaps, by the heavy expense incurred by the Co. in erecting hoisting works and opening the Union mine, which has thus far proved a dead loss.

The North Star at Grass Valley, are now engaged in putting two additional batteries, of four stamps each, into their mill. With this addition, the mill will have twenty-four stamps, all of which will be running in the course of two or three weeks.

Plumas County.

Quincy *National*, July 11th: Banks, Goodwin & Co., have struck rich diggings at the forks of Hopkin's Creek, and last week they took out $480. Trucks & Co. are making one ounce per day to the hand. Henly & Co. are getting fair prospects in the Blue Lead.

Union, July 11th: On Hopkin's Creek, Betts & Co., McManus & Co., and Holloway & Co., all on the same lead, are getting big pay. The ditch will supply them with water to work the whole year. The diggings are very extensive, and have paid from the commencement. Barnes & Co., above Hopkins, are working with a hydraulic; they have *picked* up about two ozs. per day for the past month; they will make a big clean up. Cox & Co. are also getting big pay. Several of the drift claims are also paying good wages.

The Bull Frog quartz mill on Rush Creek, which is now owned by McClellan, Bidwell & Co., is running, and averaging about $100 per day.

The Eagle Co. finished cleaning up on the 28th ult. The company took out something over 1,300 ozs., or about $24,000. They have commenced work again and are taking out pay dirt. The Buckeye claims are averaging about $6 per day to the hand.

The Mountaineer Co. are still running ahead with their bed rock tunnel, and are in hopes of striking pay grit during the fall.

All of the ditches are full, and the hydraulic companies at Richmond Hill are still at work piping.

Sierra County.

Downieville *Messenger*, July 11th: A correspondent says: Mr. Gallatin in Sackett's gulch, near Little Table Rock, has made another rich harvest of gold. I understand that he cleaned up about $20,000 for this winter's drifting, with from four to ten picks. Wolf & Bros., next adjoining his claims, have been running a new lower tunnel towards Little Table Rock, and have been rewarded for their energy and zeal in finding good pay gravel improving as they go along. On St. Louis Flat is the Western Co., taking it out as big as usual. Morgan & Co., with their piping apparatus are working very rich gravel. McCrory is piping dirt which is the best looking in this vicinity. Emory & Pharr are piping two sets of claims. In one of them, they are caving down banks of pipe-clay to slake during the summer, so as to wash the same away more readily next fall. At Greenwood is the Star Co., formerly known as the Greenwood Co., under the superintendence of Evan Jones, taking out big wages as usual. At Cedar Grove the claims are paying good wages. Next to their claims are those formerly known as Deacon Long's claims, which the present owners propose to open very soon by blasting the tunnel lower and taking out the shute. Next to this claim are McCrory's piping claims, dirt looking well. At Gardner's Point is the Old Comet Co., driving a new tunnel or gangway around a cave. Isaman & Co. are piping very rich looking dirt, but hard as iron; they washed off about four claims. Next towards Grass Flat comes the Riffle Co., booming away at hard rock of the celebrated lightning description, and in the new town of Grass Flat is the extensively known Pioneer Co. drain tunnel and claims also hammering away in their branch tunnel towards the former. The Northern Liberty ground, having overhead good looking and fair prospecting gravel, expect to wash very soon. This Co. has so far expended over $40,000 in hard $20 gold pieces in prospecting their work, and will give in course time employment to several hundred men, and will afford drainage to the Bamboo, Dame Fortune, Maria Hartman, Homer William, Homestead, and Manzanita, now called the North Star, and the New York Cos., so as to work their extensive and rich ground with good advantage and success. The claims at Port Wine are paying as well as usual.

Siskiyou County.

Alta, July 15th: A dispatch dated Yerka, July 14th, says: The party who left this place some months ago, on a prospecting tour to the Stickeen and other northern streams, report the country barren and destitute of deposits of gravel. No discovery of gold was made anywhere.

Tuolumne County.

Sonora *Democrat*, July 11th: Hiskey, Mienhard and Morton, after a run of seven days, at the Star mine, cleaned up the batteries of their mill and obtained $960. These gentlemen have purchased the Star mine of P. B. Bacon. It is the best lead in the Southern mines.

The proprietors of the Hines claim at Columbia, picked up a lump of gold last week worth $5,500.

Yuba County.

Marysville *Appeal*, July 11th: A correspondent writes that the prospects of the Pennsylvania claim, Brown's Valley, have never before been brighter than they are at present. The Co. are hoisting very good quartz from both their inclines, and it will be easy for them to supply their 16 stamps without any further interruption. In incline No. 2, the Co. have again found their rich pay chimney—what so far had been taken for a hanging wall is now found to be simply a new splice of the chimney, as large and rich as ever before.

ALASKA.

Portland (Oregon) *Evening Bulletin*: From accounts brought by some officers of the U. S. steamer Jamestown, which recently arrived at Esquimalt from Sitka, we learn that a strike has been made on Takou River, about 70 miles northeast of Sitka. It was made by a party of miners from the Steekin, who are not satisfied with the result of their labors in that section. The prospects on the Steekin are spoken of as much better than ever known before, some large pieces of gold being recently taken over to Sitka.

BRITISH COLUMBIA.

During the month preceding June 20th, $213,772 in gold dust and bars were shipped from Victoria to San Francisco. Nearly all of this gold was taken from Cariboo mines. The mining prospects in the upper country were never so good as at present.

June 27th: An important strike has been made on Antler Creek, Cariboo. It has caused considerable excitement, and it is thought that it will again come up and equal its palmiest days. Accounts from all portions of the gold diggings of Cariboo are of the most favorable character. The bed rock drain has been thoroughly tried, and may now be considered safe for this season.

Steamer Lillooet came in last evening from Yale, bringing $650,000 in dust from the upper country.

COLORADO.

Georgetown *Miner*, June 25th: Work on the Astor lode has commenced for the season. Mr. Morse, who owns 400 feet on the vein, is now running a set of hands, and will work the same actively until near the close of the season, when the necessary buildings for winter mining will be erected, and the work in the mine continue uninterruptedly throughout the year. The first class ore taken out will be reduced here, and the second class, with the leaner material, will be piled up for future reduction. Messrs. Cooper & Fisher, who, with Mr. A. T. M. Adams, own the balance of the lode, are actively engaged upon their portion of the property. Much of the material in the Astor lode which has heretofore been deemed worthless, is found to be rich in silver. Mr. Martine made an average assay of the sand in the crevice, many tons of which had been thrown away, and found the same to yield $55 per ton, silver. An assay from a fine specimen of the ore by the same gentlemen, gave the enormous yield of $18,000 per ton.

Denver *News*, July 1st: The Hayden and Morrison mills at Graniteville, will be running this week.

The Amazetti, an extension of the Yankee Blade, is worked extensively; the quartz looks well.

The gold business at the Denver U. S. Mint is improving. Yesterday they paid out 22 bars of gold bullion, valued in coin at $13,627.51.

Hol. Newlin came down on the semi-weekly Buckskin coach yesterday, which brought also about 150 ounces of gold. The Hamilton Placer Mining Co. have leased their mine to Foster & Poles, for 40 per cent. of the gross proceeds. The mine is well opened and has three hydraulics in operation, which are fed by a ditch 1¼ miles long. The ground lies along Tarryall Creek for 1¼ miles, and they are now at work 400 to 500 feet back from the stream. The prospects of the other placer mining companies in the Park are encouraging.

At Hussey & Co's, yesterday, we saw 40 ounces of retort from the Ni Wot Co's mine. At the First National were three bars of bullion weighing 160¼ ozs., and valued at $3,000 in coin. At the Colorado National were two bars weighing 71 ozs., and valued at $1,300.

Central City *Herald:* Dr. Holland, of Trail Creek, got $1,216.16 from one cord of Coyote ore with stamps. The Lincoln Co., of Mill City, are running eight arastras and making it pay. Within two weeks there will be 20 arastras running at Mill City. The ninth lode has been cut by the Quartz Hill Tunnel, now 350 feet in. Six men sluiced five days on the Wright claim below Idaho, and cleaned up 79 ozs.—$60 a day to the hand. The Pleasant Valley Co. realized $1,700 from six day's sluicing. There are 18 companies sluicing in Russell Gulch, employing 150 men.

Chieftain: The Moreno mines are beyond cavil a great success—if $8, $10, $15 or $20 to the hand per day may be termed success. There are already some 5,000 persons in the mines, and the number is increasing daily.

Register: The Clarke-Gardner Co's mine is furnishing the Black Hawk 60-stamp mill with ore. This is one of the mines that has yielded nothing for two or three years. The Flack is another. They have been since February getting out the water, and now the mine is ready to produce ore. There are running in Black Hawk 324 stamps, besides the smelting works, and the California

reducing works. Patch diggings have been discovered and are paying well on the hill side below the Burroughs. The Equator lode, Georgetown, is now open to a depth of 102 feet. The average width of the vein of paying ore is two feet, one foot first class. They have struck the lode in a new shaft 200 feet east of the discovery, and there have three feet of sulphide ore.

Herald: Herrick has got out another silver button, weighing 211 pounds, taken out in 30 hours (expelled we suppose). Five companies are sluicing on North Clear Creek. Robert Teats presents at the bank 215 pounds of silver, taken by his California works from ore from the May lode, Mountain House District.

DACOTAH.

The accounts from Sweetwater are conflicting. Our readers must judge for themselves.

Grass Valley *Union:* A correspondent writing from Brownsville, North Platte, under date of June 9th, says: I left Salt Lake on the 21st of April, and arrived at the Sweetwater mines on the 21st of May. I only stayed there three days, but before I was there two hours I was convinced that it was no place for me. There are some gulch diggings, but they are mostly dry, with no ditches cut to them, and the ledges have not a shaft sunk on them.

Sweetwater Mines, June 17th: P. A. Gallager (formerly of Calaveras county) left us yesterday for Salt Lake City, carrying some $15,000 in gold dust, the proceeds of our much abused placer claims. This makes over $20,000 shipped this week, and yet but few claims thus far have been opened.

Oakland (Cal.) *Transcript:* Mr. Hemphill writes from Salt Lake under date of June 22d, that Sweetwater is overdone, and many returning prospectors pronounce it a failure. The ledges are proving to be mere spurs and soon run out, though some of them are very rich in gold. From three gunny sacks full of the decomposed quartz of one ledge, $1,200 was taken; hence the present excitement.

Cheyenne *Leader*, June 24th: Mr. McGlinchy arrived here to-day from Sweetwater, and says the placer diggings are really good and improving, while the quartz is beyond all question the best which has been found anywhere.

25th: Dr. Irwin and A. O. Libby have returned to Cheyenne from the mines beyond the Laramie. They report snow to the depth of six to ten feet. Placer diggings good, and the country abounding in ores of gold, silver, bismuth, lead and other metals.

Mining prospects and results are growing better every day. On Rock Creek about four miles from South Pass City, they are making from $10 to $12 per day to the hand. In the Pacific district they are doing quite as well, and in Spring Gulch a ton is in use from which they daily clean up from $150 to $180. Comstock, of Washoe fame, is making $100 a day. One man has here obtained from five pans of dirt, in a locality where the ground can be easily worked.

29th: In grading the road near Rock Creek, a cut was made through a vein of the finest quality of bituminous coal eight feet in thickness. Railroad men say that in a few months all the coal used in Omaha west of this road will be taken from mines on Laramie Plains, instead of being shipped from the East as at present. This coal is said to be far superior in quality to that now in use on the road.

IDAHO.

Lewiston *Journal*, June 20th: A correspondent writes: There are four arastras crushing ore from the Davis lode, at Florence. After one month's run they have cleaned up $4,000. About 50 ozs. of retorted gold amalgam has been sent to the San Francisco mint for assay and coinage, so that the proprietors of the ledge may have a correct valuation of the proceeds of the Davis lead. The arastras are now progressing finely. The working of the ledge has been this season, by an incline shaft, and the crushing entirely by the arastra process, for a thorough prospecting purpose. The company that own the ledge are now fully satisfied of its richness and permancucy, and are calculating upon obtaining a mill so soon as they can do so and have it run unincumbered by debt; this they expect to do from the proceeds of the arastra which they have now at work.

Owyhee *Avalanche*, July 4th: The Rising Star Co. are engaged in erecting their steam hoisting works. The ore now being taken from the mine shows large quantities of black sulphurets and beautiful ruby silver. Mr. Sandborn has sent ten tons of average ore to Virginia City, Nevada, where it will be worked and tested by the chloridizing process. Eve's sawmill is turning out lumber for the 30-stamp mill to be erected this summer.

Active preparations are in progress for extensive mining operations on War Eagle and Oro Fino mountains this summer. The splendid hoisting shaft on the Poorman will soon be completed, when a large number of men will be employed and a large amount of ore taken out—probably more than enough to keep the Owyhee mill in constant operation the year round.

An experienced mining Superintendent, recently from Virginia City, Nevada, has taken charge of the Golden Chariot mine. The new hoisting works are on the ground, and will be ready to steam up in 8 or 10 days. Mr. Hyde continues foreman in the mine.

Large quantities of fabulously rich ore continue to be taken from the Ida Elmore, although the mine cannot be worked any deeper till the arrival of the new engine, which will be in about two weeks. The small engine now in use will then be set to work on the Surplus Oro Fino.

We are informed that the Oro Fino hoisting works will be in working order to-day. Owing to the anxiety of the company to get to work, the engine has been put up in the open air, but will be inclosed in a suitable building immediately. Mr. Patrick McMahon, an energetic and experienced miner, is now foreman of the mine.

A thousand ft. of the Mississippi ledge has been bonded to Harvey Johnson, for 90 days, and work was commenced last Monday in order to thoroughly prospect it. The vein is over seven feet in width, and is, no doubt, one of the largest and most valuable in the camp. Should it not pay more than $40 per ton—a low estimate—it will yield a handsome profit.

Clark & Basford have commenced work on the Greenback mine. A shaft is down on the ledge 40 ft., 75 or 100 yards a little west of north of the new shaft now being sunk on the Poorman. The vein shows a width of from 8 to 10 inches, and somewhat resembles Poorman ore.

Three tons of Rapidan ore, crushed in an arastra at Ruby City, yielded over $70 per ton.

The Rising Star mine, in Flint District, is yielding very rich ore.

World, July 4th: The tunnel into Banner ledge is pierced to a depth of 300 feet. The ledge is one foot width at surface, and wide as it exteuds to two feet in thickness at the bottom of the shaft. The ore taken from the ledge is very rich, and in the absence of more suitable machinery for crushing, Messrs. Bradford & Carr have an arastra to work upon it. The Banner mine is one of the best in the Territory, but because of a succession of adverse circumstances attending its management in former years, its development has been retarded.

MONTANA.

Helena *Post*, June 26th: The new 10-stamp mill of the Cole-Sanders Co. is to be placed upon the celebrated Poor Man's Joy lead, at Phillipsburg, and large quantities of ore are now being taken out.

During Wednesday and Thursday last, Molitor Bros. melted and assayed half a dozen golden bricks, weighing respectively, as follows: 330 ozs., 310 ozs., 272 ozs., 400 ozs., 383 ozs., and 262 ozs., or over 163 pounds of solid gold, worth over $35,000.

The last run of the Union mill, of six days, yielded a brick weigbing 307.96 ozs., .779⅓ fine, and worth $4,960.70.

At the First National Bank assay office, during yesterday and the day before, Prof. Steitz smelted over 1,000 ozs. of the precious metal, worth $18,000.

One of our bankers has shipped half a million dollars worth of golden bricks to the States during the past six months.

The Green-Campbell ledge, Silver Star District, has several shafts on it, and is developed to a depth of 82 feet, with a clear crevice of 10 feet of pay quartz. Levels have been run, and over 3,000 tons of quartz are now on the dump piles, estimated at $25 per ton.

After a four month's run "Pony Ricker" has just given his mill a thorough cleaning. The result was 207 ozs. of amalgam, worth nearly $4,000.

At Jefferson Gulch, Marsh & Co. have run a flume 900 feet in length at the lower end of the gulch, and are now within four ft. of the bed rock. At the upper end of this flume, prospects of from 25 cents to $2.50 to the pan have been obtained. Darab, Harris & Co's claim cleaned up on Saturday night 47¼ ozs. of gold for one week's run with seven men. Other claims are yielding from $16 to $20 per day to the man.

Numbers are leaving Radershurg for the new Crow Creek mines, where prospects of as high as $1.50 to the pan are reported.

At the assay office of F. Bobm, on Saturday, 1,293 ozs. of gold were run into bars, worth $25,000.

July 3d: In Moore's Gulch, at the head of Elk Creek, one man took out alone during two days last week, $108 and $138 respectively. The bed rock flumes in Elk Creek are all paying well.

The mines at the head of Ten Mile are proving rich. Three companies, among them that of James and William Pierce, are hydraulicing there with good results. Runs of from $25 to $30 per day to the hand are said to be not uncommon.

The Southern lode, situated in Spring Gulch, a tributary of Oro Fino, is beginning to attract considerable attention. It prospects from ten cents to one dollar to the pan of dirt. The character of the rock is decomposed quartz, and the ledge is from one to three feet in width. A shaft has been sunk to the depth of 70 feet, and some 50 tons of quartz taken out ready for working. An arastra now being put up near it, will be completed next week.

Mr. F. Bohm informs us that the assay business is at least 25 per cent. better now than it was last spring. Up to the present time he has already assayed, during the present month, $200,000 worth of gold. He yesterday assayed 1,000 ozs. of the precious metal.

The ground in Last Chance Gulch below the Whim claims, or such of it as is owned by white men, is paying well. Six companies are working it and are making from $6 to $10 a day to the hand.

In its mining operations, Radersburg is still very successful. On two occasions recently, Messrs. Barrett, Waltou & Co. have cleaned up from their claim in Charity Bar, $237 for a ten hour's run with two men working. They have also four yields, $218 and $150 per day with the same number of men. All the Charity Bar claims are paying well. Nearly all of those that went on the stampede to the new diggings at Wilson's Creek, have returned. Granite Bar, on Keating's Gulch, near Radersburg, is yielding well. The first run was made there on Monday last, when four men cleaned up $190.

A correspondent writing from Springville, June 22, says: There are 9 hydraulics running here steadily, day and night, giving employment to about 100 men. About 101 claims of minor importance are being worked on Cedar, Coate's and Oscaloosa gulches, and are paying fair wages.

The claims of Judge Stewart & Co., which are worked by hydraulic process, are paying extremely well; they having cleaned up $1,000 while cutting through the rim rock, in order to get their flume low enough to work the ground in the rear, which they consider much better than that in front. Sheafer & Co., on the bar adjoining, have cleaned up $700 in a run of 48 hours. Logan & Co., who recently purchased the hydraulic claim of G. Bowman, have made, it is said, a good bargain. Jake Anthony is running his ground lively, and is doing well. Ross & Co. have a number of men at work on the same bar, in which J. W. McCone is largely interested.

NEVADA.

Esmeralda.

Aurora *Union*, July 4th: Governor Blasdel's son has been making arrangements for refitting the Homestake mill, and he intends sinking immediately 100 ft. deeper on the mine.

There has been taken out in this vicinity, and shipped through Wells, Fargo & Co's Express, during the month of June, over $10,000.

The proceeds of a crushing of 13 tons, from the Pacific at Bodie, amounted to $3,100.

Territorial *Enterprise*, July 10th: Mr. J. Cooper yesterday brought to this city some exceedingly rich rock from the Central, a southern extension of the famous Wilson lead, Pine Grove, Wilson District. The specimens we have seen are plentifully besprinkled with spangles of free gold, and the Central Co. have out upon their dump about 20 tons of the same sort of auriferous filth, with a large ledge from which to dig out more when they want it.

Humboldt.

Reese River *Reveille*, July 3d: Mr. Pickett informs us of the discovery of rich silver ore on Long Creek, in the northern part of the Battle Mountain district, eight miles north of the Humboldt River. A large vein called the Little Giant has been traced for upwards of a mile, and three locations of 2,000 feet each have been made upon it. The ledge outcropped at the summit of a hill and was easily followed into and across a deep cañon. One of the claims, owned by Fox and Macbeth, has been worked to some extent, and lately 4½ tons of ore were sent to Fall's mill, at Unionville, some 60 miles from the district, for reduction, and it yielded $192 per ton. As the mill crushes the ore wet, it is not probable that over 50 or 60 per cent. of the silver was extracted and saved. Besides the Little Giant, several other ledges were discovered and located, all of which show ore rich in silver. At the greatest depth opened in the Little Giant, the vein is said to be five feet thick, compact and well defined. Scattered over the district there are about 50 men engaged in mining and prospecting. The best copper ledges are in Copper cañon, about eight miles south of Long Creek, but at present nothing beyond assessment work is done by the owners.

Reese River.

Reese River *Reveille*, July 7th: Yesterday a vein of handsome ore was struck in the works of the Plymouth Co., a specimen of which we saw to-day at Paxton's hanking house. The vein was cut in a drift extending from the shaft at the depth of 250 ft. We did not learn the width of the ledge, but there are pieces from two different strata each of which is from two to three inches thick. One stratum is beautiful dark ruby ore of apparently a high grade; while the other appears to be a dark rich sulphuret. The shaft of the company is designed to pierce several ledges belonging to it, but whether this is one of them, a blind ledge, or the ledge of some adjacent company, is at present a matter for conjecture.

Silver Bend *Reporter*, July 8th: After a thorough overhauling, the Combination mill started up on Monday, and probably will not cease its hammering again for the next 50 days. It has 20 stamps at work wet crushing and 20 dry.

The little 10-stamp mill at Hot Creek has "shut up shop," we learn—not being able to either procure ore or treat it successfully. Mr. Miller will immediately rebuild the Old Dominion, and will probably have it at work by the middle of August. A new discovery is reported of a ledge half way between Hot Creek Cañon and Rattlesnake, by Mr. Frame.

A depth of 48 ft. upon the vertical shaft yesterday disclosed a fine body of ore in the Silver Queen mine. As the ledge has not yet been cut through it is impossible to determine its extent at this time, though if we can judge by previous surface developments and surroundings, the Silver Queen will prove to be one of the best lodes in the district.

Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Territorial Enterprise, July 9th: The Yellow Jacket mine is looking better than it has for many months and all the machinery about their works is in good repair.

The Crown Point Co., Gold Hill, have commenced a new drift, south from their shaft, at the 900-ft. level.

The Imperial and Empire Cos. are still battering away at their respective drifts on the 900-ft. level. The drift of the Empire Co. is over half way through the ledge, and thus far has developed nothing of any very encouraging nature in the way of pay ore. The Imperial drift still continues in barren quartz, but a side drift has been commenced to follow the little seams of pay ore found just after cutting through the east wall of the ledge.

July 11th: Wells, Fargo & Co. shipped during the past week from their offices in this city and Gold Hill, 7,124 lbs. of assayed bullion, valued at $218,377.64.

The Alpha Co. are still engaged in repairing their shaft, retimbering their more important drifts, and doing other necessary work with a view to taking out ore shortly. Many of the old drifts are so badly caved that no effort will be made to open them; it being considered safer and cheaper to open such as will be needed in new and unprospected ground. The reopening of the mine has proved a much more arduous and expensive task than was anticipated. Once it is again in order, however, there will be no water to contend with, and the company have two good bodies of ore upon which they can at once set to work.

July 12th: The total amount of bullion shipped from the office of Wells, Fargo & Co. in this city, during the month of June, was $960,501.92; and from their Gold Hill office for the same period, $505,533.05. The shipment from Gold Hill was about $110,000 less than the shipment from the same point for the mouth of May.

OREGON.

Dalles *Mountaineer*, June 27th: A correspondent writes that the diggings on Canyon Creek are still paying well, employing a great many hands at good and remunerative wages. At Marysville, or in that district, the boys have fair prospects of a rich yield of the "shiny ore."

Times: The Humboldt Co., at Eagle Creek, cleaned up after a two week's run, and took out $1,100. Their ledge, (the Gem) is increasing in width and richness.

Mining and Scientific Press.

W. B. EWER,.....SENIOR EDITOR.

C. W. M. SMITH. W. B. EWER. A. T. DEWEY.

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WRITERS should be cautious about addressing correspondence relating to the business or interests of a firm to an individual member thereof, whose absence at the time might cause delay.

Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1868

Dr. L. G. Yates is our duly authorized traveling agent. July 6, 1867.

Mr. A. B. Butler is a duly authorized traveling agent and correspondent for this paper. July 15, 1867.

San Francisco:

Saturday Morning, July 18, 1868

Notices to Correspondents.

L. B.—Attraction may be regarded as acting both at *sensible* and *insensible* distances. In the former case, it is called *gravitation*. It is the power by which substances are propelled towards the earth; it exists in all known forms of matter; it acts directly as the mass, and inversely as the square of the distance; restrained by *inertia*, it maintains the planetary bodies in their orbits, regulates their movements, and tends to confer upon the system of the universe that consummate harmony which Newton first unveiled. At insensible distances, attraction is also exerted. It is by this property that the form is preserved and the texture of solids is modified; it gives a spherical form to fluids; causes the adhesion of surfaces; and influences the mechanical character of bodies. The different forces with which it is exerted are exhibited in the different qualities of solids, which are sometimes exceedingly hard and of difficult diversion, as the diamond, rock-crystal, etc.; others are comparatively soft or brittle, and exhibit less force of aggregation, such as calcareous spar, chalk, etc.; in others the property is so modified as to exhibit plasticity, porosity, elasticity, and tenacity, as seen in clay, sponge, caoucthouc, steel, etc.

A LEARNER.—You may easily acqnire the habit of accurately describing, in a separate manner, the chemical and physical character of bodies, by closely adopting the following rules: Physical properties are independent of the action which any body exists upon another body; chemical properties relate to the action which occurs when brought into contact with another body. For example,—when describing the physical properties of a substance, say sulphur for instance, reference should be made to its brittleness, its faint peculiar smell, yellow color, crystalline structure, its semi-transparency, the facility with which, if rubbed, it exhibits electrical attraction, and so on; but if it is desired to describe its chemical properties, it will be necessary to allude to the changes which take place on losing the distinctive properties alluded to, such as the ease with which it takes fire, and rapidity with which it unites with silver or copper, especially when heated; its insolubility in water or alcohol, and its solubility in turpentine or alkaline liquids.

OROGRAPHER. — Viewing the subject of mountain ranges, as an associated geological and geographical subject, we may assume that the two longest ranges in the world consist of the Andes, commencing at Terra del Fuego, extending north through South America, and continuing through Mexico and the United States (as the Rocky Mountains) to Mackenzie river,—total length being probably 8,400 miles. The other great range is in the old world, commencing with the Meling Mountains, China, near Amoy, continued westerly by the celebrated Himalayas, the Hindoo Koosh, etc., to the Asiatic side of the Dardanelles; on the European side this mountain range continues through Turkey in Europe, and terminates on the borders of France and Switzerland. This chain forms a length of about 8,000 miles; although less in length, the mass of matter composing the latter is probably more than double that of the former.

CONTINENTAL Life Insurance Company, 302 Montgomery street, corner of Pine.

J. Ross Browne's Report.

The final report of Mr. J. Ross Browne, upon the Mineral Resources of the Pacific Coast, the reception of which we have already acknowledged, is really a valuable publication, and contains a large amount of information relative to the vast mining region which he was instructed to examine and report upon. The facts themselves were too voluminous to be very carefully digested within the time allowed the Commissioner to make his report, or to be presented under any circumstances, in a form specially attractive to the general reader; yet they are facts which it is highly necessary should be brought together and placed before the public in a convenient form for reference. We believe there is no special originality claimed for the work; and it may not be one which will particularly instruct or interest a well informed California reader; but it conveys just the class of information that every Californian should desire to see spread before the masses of the Eastern States and Europe.

This, as well as Mr. Browne's first report, has been slow in reaching this coast, and, indeed, we presume it has not been the intention of the government, nor is it particularly the desire of the people of this coast, that it *should* have a very general circulation here. The object of its publication will be far better attained by giving it such a distribution in other longitudes than this, where it is for our interest more should be known of our resources than has yet been promulgated, with anything like an authoritative stamp.

The preparation of this report has been a work of no ordinary magnitude,—considering the time allowed for the same,—and although Mr. Browne has gathered a large portion of the material by his own individual observation and industry, it has nevertheless been an absolute necessity for him to call to his aid much assistance from experts and others whose personal standing in the community, long residence on this coast, and intimate acquaintance with our various resources and industries, has enabled them to furnish information in their respective specialties, which will be received as correct and reliable. Hence the report is by no means the result of the labor of any one individual; but comprises the aggregated result of the labors and observations of numerous diligent explorers, statisticians and experts, continued during many years of active research on this Coast. The Commissioner has awarded very generous credit to his able corps of assistants, in which he remarks: "If there be any merit in the work, it belongs chiefly to my colaborers, who have devoted themselves with such unselfish zeal to the promotion of the objects designed to be accomplished by this Commission." He gives credit to Mr. J. S. Hittell, of this city, for the description of the chief portion of the mining regions of California. Dr. Henry De Groot, of this city, Mr. T. H. Rolfe and Mr. E. F. Bean, of Nevada, and Dr. A. Blatchley, are also referred to as contributors in this department. The latter gentleman, who is well known as an experienced mineralogist and mining engineer, was also especially deputized to visit and prepare, from personal observation, the report upon the mineral resources of Montana and Idaho.

Mr. H. C. Bennett, now Secretary of the Labor Exchange, of this city, and a gentleman well acquainted with the mineral resources of the State, is credited with the authorship of the chapter on Copper and the Miscellaneous Minerals, of which paper Mr. Browne says: "No such complete and extended notice of the miscellaneous mineral productions of the Pacific Coast has yet been published." This portion of the report, which occupies some sixty pages, will be found especially valuable to all persons seeking information respecting the general mineral resources of the Pacific Slope.

The elaborate report upon the Comstock Lode—its character, yield, processes of reduction, statistics, etc., is credited to Mr. R. H. Stretch, late State Mineralogist of Nevada. The scientific acquirements of this gentlemen, and his long study of and intimate acquaintance with this remarkable lode, render him a most proper person to report upon it.

Mr. W. M. Gabb, late of the California State Geological Survey, furnished the report on Arizona. Mr. Myron Angel, of the Reese River *Reveille*, Mr. Elwood Evans, of Olympia, Oregon, Messrs. Ainsworth, Hill and Ladd, also of Oregon, are also mentioned as contributing valuable information from their special localities.

This report will do much in the dissemination of useful and correct information with regard to the mineral resources of the Pacific Coast, and in setting forth the advantages which this region possesses for the judicious employment of capital. The suggestions and remarks of the author, with his introductory dissertations, etc., are of much practical value. The gathering and grouping together of such a vast amount of statistics and facts, never before published in a connected form, give evidence of a large amount of personal labor on the part of the Commissioner.

In glancing over the general features of the report, we find first, some 300 pages devoted exclusively to the State of California; then follow 150 pages on the resources of the State of Nevada. Arizona, Utah, Montana and Idaho, occupy the next 100 pages, followed by 60 pages devoted to remarks upon Washington Territory, Oregon and Alaska. We have next two sections of general observations on the Pacific Coast; progress of settlements; immigration and labor, and some considerations on the precious metals. The volume closes with an appendix, in which the reader is made acquainted with the nature of the instructions under which the report has been prepared. An abstract of Congressional legislation in regard to the mineral regions generally, is also given, together with some general remarks on the importance of the establishment of a National School of Mines, and Mr. Stewart's bill for the organization of such an institution. The work closes with a full and carefully prepared index, which will be found of great convenience to the reader in his search for any class of specific information which he may desire to refer to, within the 700 pages of closely printed matter to which this report extends. We shall take occasion, from time to time, to place in the columns of the PRESS such extracts therefrom as may be deemed of special importance to our readers.

QUARTZ MILL BURNED.—We understand that the Old Bear River Quartz mill, on the Fremont Estate, was destroyed by fire on Sunday morning last. Loss about $12,000, some four or five thousand of which was covered by insurance. This is the mill in which the Eureka process has been worked for the past year or so—a combination of the Lundgren barrels and Ryerson superheated steam process. This property belonged to the Fremont Estate; but is now in the hands of the Messrs. Brummagim, who hold it by virtue of a mortgage whose limitation was allowed to pass without redemption, by the Fremont Estate Co., or "Bond Holders," as they are called.

THE OAKLAND SEMINARY FOR YOUNG LADIES, under the management of Mrs. G. M. Blake, will commence another term on Monday, 2d inst. This accomplished lady is aided by competent and experienced teachers in each department of study. Any one wishing information in regard to this school will do well to read a card elsewhere, or address Mrs. B., who will be happy to furnish catalogues, and answer all inquiries.

Tons of Cocoons.

Mr. Hoag, and Capt. Haynie, of Sacramento, as we have already announced, are now busily engaged in feeding silkworms in that city. The first eggs were taken to the cocoonery for hatching, June 1st, and the entire lot of the first feeding have recently completed their cocoons, which are of unusual size and weight—325 only being requisite to make a pound. At this rate, Messrs. Hoag & Haynie have, as the result of their first feeding, 2,461 pounds of cocoons, or nearly one and a quarter tons. It is estimated that this number of worms consumed about twenty tons of leaves. At the conclusion of the feeding there were more leaves on the trees than at the commencement—so thrifty is the growth of the mulberry in that locality. Their cocoonery is on the Yolo side of the Sacramento River, about three miles above the bridge. The second feeding has already commenced, and another ton and a quarter of cocoons may soon be gathered in! They had at the commencement about three millions of eggs; making fair allowance for bad eggs, they will be able to make three feedings of 800,000 each, if their foliage holds out, of which we presume there is no doubt. If the two feedings yet to come in do as well as the first, they will have, as the result of their season's labor, about *three and a half tons of cocoons*.

There are some three or four large silkworm feeders at work in the State this summer. If the others, and the small feeders, do as well as our Sacramento friends, the aggregate of the California cocoon crop will be something of an item in our State's production for the present year, and we shall henceforth have something more than *talk* connected with the silkworm business of California.

The Sacramento *Union*, in alluding to the operations of Messrs. Hoag & Haynie, says that the cocoons which they have produced are of very excellent quality, of unusual size, of a bright straw color, and very hard and compact. That paper is informed that the work of taking care of and feeding them has all been done by Chinamen, one of whom has followed the business for life, and on his own account, in China. The success of the feeding—and which, notwithstanding the unusually cold and unfavorable weather of the season, is unparalleled—is in a measure attributed to the skill and management of this Chinaman. The cocoonery was supplied with stoves, and fire was built in them every night, from the hatching until the cocoons were finished, and the worms fed every four hours, night and day.

INTERIOR STEAM NAVIGATION IN CHINA.—Great efforts are being made to introduce steam navigation on the great rivers of China. The Yantze Kiang has already been opened to foreign capital, and efforts are now being made to induce the Chinese Government to open the Hoang Ho river to foreign commerce. The Yangtse Kiang, in the main items of size, adaptation to navigation and wealth of the district through which it runs, is nearly equal to the Mississippi. They have still another large river fully equal to the second named for inland navigation. China presents advantages for interior navigation not in the least inferior to the United States; and with the dense population which already swarms upon the banks of her rivers, and the favorable encouragement which is now being extended to foreigners, will soon present one of the most inviting fields for the employment of capital to be found in any part of the world.

MINING being a science as well as an art, requires an educated head as well as an educated hand. Either can do but little singly; conjoined they can accomplish almost anything.

The Fair—Progress of Preparation.

The preparations for the approaching Fair continue to progress in a most satisfactory manner. The labors of the Building Commitsee are rapidly drawing to a close in the completion of the Pavilion on Union Sqnare. We had intended to have given a full description of this structure in our present issue; hut the artist who is preparing the engraving with which we propose accompanying euch description, has been unahle to complete it in season for thie week. It will appear in our next, and will give a very good idea of the appearanco which the huilding will presont when completed. The structure, as we have already said, is most admirably adapted for the purposes intended, and will present more architeetnral excellence than any similar huilding which has been creeted on this coast; indeed, we donht whether it has ever heen equaled hy a huilding for any similar purpose in the Atlantic States.

The outside work of the structure will be completed in the course of the coming week. Workmen are are now engaged in putting up the shafting and pulleys from whieh the machinery will be driven. The main line of shafting will be 224 feet in length.

In looking over the list of proposed entriee, we notice that agricultural implements bid fair to form the chief feature in the line of machinery. This fact is important as indicative of the increasing interest which is heginning to be felt in that important and rapidly growing hranch of industry. Many of these implements will not only he of California make, bnt of California invention as well.

Amoug the novelties not heretofore alluded to in onr notices, we may enumerate the following:

A shirt-making machine, in which the whole proccss of shirt-making will be displayed.

A tenoning machine, by G. Duren.

A new hoot-screwing machine—a California invention—by N. Lumsden.

A model in plaster, giving an exact miniature represcntation of ahout six miles equare of the mining district of Gold Hill and Virginia. Thie model has been conetrueted on a scale of one inch to four miles, by R. H. Streteh, Esq., late Geologist of the State of Nevada, and a gentlemen who has studicd the topography, mincralogy and geology of that eelchrated mining district more thoroughly than any other man—so much so that he may be eaid to have it "all in his eye." This exhihit will form a most interesting and instructive novelty.

It is needless to say that the ladies will be there with a large exhibit of every variety of their delicate workmanship. Laces, emhroidery, and fine needlework of every description, will be spread out to please the eye and interest the taste of such as are interested in such things, (and who is not).

The work of assigning positions will soon be commenced, and that of placing the goods for exhihitors will be entered upon by the first of Auguet. The Pavilion will be opened for their reception on Monday, the 27th inst. The goods exhihited will he divided into thirty classcs or departments, which will be given in full in connection with our illustrated description of the building next week.

PREMIUMS.

Besides the ueual distribution of diplomas, the following list of premiums will also he awarded:

Fifty-six Silver Medals will be awarded as special premiums, and apportioned among the eeveral classee or departments, according to the value or importanee of the classes repreeented.

Sixteen Gold Medals will also be awarded to the most valuable display of California products or manufactures, one for each of the following departments or classes, viz: 1, 2, 3, 4, 8, 9, 10, 13, 14, 15, 16, 18, 20, 22, 23 and 27, or sixteen in all.

THE INSTITUTE MEDAL—*par excellence*, and valued at $200, will he awarded to that invention, indnstrial product or manufacture which, in the opinion of the judges, will he of the greatest benefit and valne to the people of California. This medal is to be jeweled, and, uuder the circumstances, will he of great interest to exhibitore, and cannot fail to prove an important incentive on the part of each to excel all others.

The Lowe Refrigerating Process.

We made allusion, some weeks since, to a new proccss recently devised hy Professor Lowe, the aeronaut, for preserving meats, vegetahles, fruits, etc., by retaining them in an atmosphere of great artificial cold. Since that time a company has been formed to introduee the process on a large scale. The principle on which the meats and fruits are preserved is the same as that which we have already described, and which has been introduced to eome exteut at the East, for the preservation of fruits in large houses kept sufficiently cool hy means of ice. Mr. Lowe, however, produces his refrigeration in quite a different manner—by the extraction of heat, or, as it is moro commonly expressed, the production of cold hy evaporation.

It is well known that when carbonic acid gas is subjected to great pressure, it is converted to a eemi-solid condition. When euch condensed gas is allowed to vaporize—as it will freely do when the pressure is removed—a most intense degree of cold is produced. Taking advantage of this fact, the gas is condensed in large quantities, by machinery, and allowed to vaporize in contact with a coil of pipe through which atmospheric air is conveyed to the refrigerator, which contains the meats aud vegetables to he preserved. By this means a temperature as low as may be required is readily kept up in the chamber. Steamers will be fitted np with properly constructed holds, in which meat will be packed iu localities where it can be procured for a small advanee on the cost of slaughtering. That meat, this company claims, can be transported to New York, and served out to the butchers of that city according to their daily wants, at half the price at which it can be afforded when transported by the usual conveyances and slaughtered in the city. Moreover, meat so eupplied has the important advantage of being killed in a healthy condition,—an advantage which cannot be attained where it is killed after long transportation on the hoof. Lines of steamers can he kept up, graduated according to the demand of any market, eo that an abundant and regular supply may alwaye be at hand.

The company starts with a capital of $300,000; with which they hope to be able to make twelve trips a year, ont of which they expect an annual net profit exceeding the entire investment. The eources of supply will be the rich pastures of Texas and Central Sonth America.

As the refrigerator works very much on the prineiple of the ammonia ice machine, the gas employed is confined in a condenser, and can be used over and over again, without lose, while the power could be chcaply and conveniently furnished by the boilers of the boat. An agent of the company is now in England, with the view, it is eupposed, of contracting for the huilding of one of the refrigerating steamers hy the Inman Steamship Company.

TO INVENTORS AND OTHERS.—The public is informed that Mr. J. H. Culver hae opeucd an estahlishment at No. 20 Fremont strcet, over the Phœnix Iron Worke, where inventors and othcre desiring models or patterns for eastings, can have them executed in a satiefactory manner. Those wishing to make experiments, will here have the privilege of power, gratis, to practically test their inventions. This is to enpply a want that has often been felt. Mr. C. has been engaged in this hranch of mechanice for the past ten years, and is already so widely and favorahly known as to need uo further recommendation. All interested in this liue wonld do well to turn to his advertisement which appears to-day.

THE MINING AND SCIENTIFIC PRESS, which commenced its seventeenth volume on the 4th, comes to us with a newly engraved head, and presenting otherwise its usual tasteful appearance. We take this occasion to say that the PRESS is one of the best papers of the kind in the United States, and every miner and mechanic in the State, as well as the business man, who would keep posted on our industrial resources, should have its name on its subscription books.—*Nevada Gazette.*

CAN it be possible that over five million bottles of PLANTATION BITTERS have been sold during the past year? It is almost incredible, nevertheless it is absolutely true, and it is the most convincing proof of their wonderful medicinal and health-restoring qualities. Every family should be supplied with these Bitters, at whatever cost or trouble it may be to obtain them. Be careful that you get the genuine, and that you are not imposed upon hy a spurious article. *

Agents in Colorado.

CENTRAL CITY.—Messrs. Richards & Crane, of the City Book Store, Main street, will act as our agents.

GEORGETOWN.—John A. Lafferty, Postmaster, is our agent in this place.

PERSONAL.—Wanted, by friends in England, information of Andrew Jackson Van Winkle and Peter W. Van Winkle. Address this office. 1v17-3tu

WANTED.—At this office, the postoffice address of Enraght Massey, late of Gold Hill, Nevada.

As if by magic comes repose,
Forget thy pain, forget thy woes.

This harmless Remedy stops all pain instantly, and leaves no stain. The tongue cannot mention any physical pain that this Paint will not remove in five minutes. Whether a frightful Burn, a griping Colic, or a simple Mosquito bite, the result proves an entire relief from distress at any spot or place where applied. It is perfectly adapted not only for all pain, but also permanently cures the worst Ulcers, Piles, Cancers, or breaking out on any part of the body, and all internal complaints, by an outward application to the parts affected.

MOORE'S PAIN ANNIHILATOR, a standard remedy for Catarrh, Cold in the Head, Inflamed Eyes, etc., sold by all druggists.

G. H. MOORE, Inventor and Sole Proprietor, 632 Market street, San Francisco, Cal. 21v16-3m

SAVE YOUR TEETH.—Drs. Jessup & Beers, over Tucker's jewelry store, are now making a specialty of filling the fangs of dead Teeth, and building up broken crowns with *pure gold*—thus restoring them to their original usefulness and beauty. They are also using Nitrous Oxide for the painless extraction of Teeth, when so desired—the only absolutely safe anæsthetic ever discovered. In breathing it, it acts as a gentle stimulant, without undue excitement,—the sensation produced being truly delightful, the effect upon the lungs healthful, and in its results positively free from all danger. Prepared and administered daily at the Dental Rooms of Messrs. JESSUP & BEERS, corner Montgomery and Sutter streets, San Francisco. 16v16tf

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WHEREAS, Certain parties in San Francisco and elsewhere, are conniving to destroy the reputation of the Bussey Lock, in order to establish other Locks in which they are interested; and

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Now Bussey wishes it distinctly understood that he pays no man to keep quiet. Bussey's Improved Combination Lock will be on exhibition at the Mechanics' Fair, in competition with other Locks for the First Premium, and a challenge will be given then and there, to the world in general, and H. S. Folger in particular. The security of the Lock will be endorsed in any amount, from $500 to $50,000. The man presuming to pick it will be required to endorse his skill in a corresponding amount.

3v17-4w

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July 16, 1868. 3v17-1m

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REFERENCES:—Rev. Sam'l H. Wiley, Oakland; Hon. Sherman Day, Oakland; Rev. A. F. White, Carson City. 3v17qr

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It is often the case that extra lengths are required, as exploding tunnels, etc., longer than is furnished in the imported article. Fuse of every desired length or size can be made to especial order, at the above manufactory.

Manufactory, - - - - Potrero, San Francisco.

JOS. POWNING, Sec'y. JAS. EVA, Supt.

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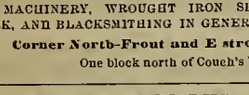
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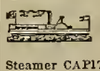
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Mining in Colorado Territory.

A correspondent writes from Black Hawk, Colorado Territory, under recent date, as follows:

This is a very rich and extensive mining district. The ores, for the most part, are much richer than those in California. The veins all lie in granite formations, and are very rich in minerals. Some of the ores cannot well be treated by amalgamation, as they contain much galena and zinc-blende. I have visited nearly all the mills and reduction works in this part of the Territory. The mills here are far inferior to those of California, both as to design and workmanship. The motion of the stamps is very slow, not making over thirteen drops a minute, and the most rapid not to exceed thirty. It makes a Californian ache to witness their lazy gait. Amalgamation is generally effected on copper plates. These plates, placed in front of the batteries, are about four and a half feet wide, and two feet long. Some few pans are employed at some of the mills. These are called the Bartolo. They may be regarded simply as arrastra pans—that is, they have drag-stones instead of mullers on grinding plates; very slow. The mines in this place are gold-bearing, while those in and about Georgetown are silver. Georgetown is about twenty miles southwesterly from this place.

The ores are there treated at one establishment by being roasted in a Bruckner Furnace—such as was on exhibition at the Mechanics' Fair, San Francisco, 1865. It works well. This furnace is well spoken of, and I think it possesses real merit. The ores are then treated in German Barrels. Mr. Martin, the Superintendent of these works, informed me that a short time since he worked 180 tons of ore which yielded $109 per ton. The cost of working was $50 per ton.

Mr. John T. Henrick, Superintendent of the Georgetown smelting works, informed me that he frequently paid as high as $500 a ton for ores.

The ordinary ores, as far as I can ascertain, yield about $20 a ton. Some yield $1,000 and upwards a ton.

As soon as I can find time, I will give you the results of my observations in Colorado.

P. M. R.

OILING THE SEA TO KEEP DOWN THE WAVES.—A whaleship master, Capt. Penniman, of New Bedford, writes to the New York *Herald* that he has followed the sea for twenty-eight years, and been master for ten years, and during that time has saved the vessel under his command twice by "oiling the sea." We have often heard of similar cases, and have conversed with those who have been eye-witnesses to the experiments. The opinion expressed by such parties has always been in accordance with that of Capt. P. The wonder is that, with such cumulative evidence of the value of the suggestions noted below, they have not long ere this been universally put into practice. He says:

When the master of a ship cannot get out of a storm,—that is, when a ship is disabled and be has to take the heft of the gale,—if he has oil on board, start two or three gallons over the side of the ship. This will give the ship smooth water to the windward, and then the oil allowed to run drop by drop is all that is required, for as soon as the sea comes in contact with the oil it breaks, and the ship is in smooth water as long as the oil is allowed to run. In 1864, in the heaviest gale of wind I ever saw, I lost all my sails, then the rudder, and I know the ship could not have ridden the sea for half an hour if I had not had oil on board. Five gallons of oil lasted me fifty-six hours, and this saved the vessel, cargo and lives on board. Let ships of heavy tonnage have two iron tanks of forty gallons each, one on each side, with faucet so arranged that the oil can be started at any time; small vessels ten gallon tanks, and all ships' boats tanks of five gallons each, well filled, so that in case the ships founder or burn, the boats will have oil to smooth the sea in case of a gale. With these tanks of oil on board of ships, and a good man for master—one who knows the laws of storms and handles his ship so as to get it out of the center of the storm—you will have no more foundering of good ships at sea, with the loss of many lives and millions of money.

RAILWAYS in Greece do not appear to pay. A petition for the winding-up of the Athens and Piræus Railway Company (limited) was heard before Vice-Chancellor Giffard, in London, May 25th.

SILVER IN TENNESSEE.—The Athens, Tenn. *Post* is informed that a discovery of rich silver deposits has recently been made near the "Gap of the Mountain," which is creating considerable excitement. It is said that in the early days of the settlement the Indians were known to be in possession of considerable quantities of silver, which they claimed to have obtained from some spot near by, the locality of which they refused to communicate to the white settlers, and the secret of which they carried with them to their graves, or to the western wilds into which they were driven.

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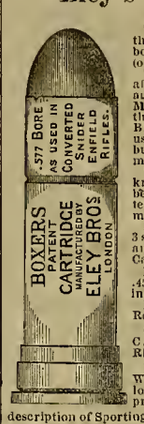
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HORSE HOES.—We learn from the Stockton *Independent* that E. W. Walltan of that city, has assigned a share of tbe patent issued for an improvement in horse hoes to W. H. Derrick, of tbe same city. This hoe will undoubtedly prove of incalculable benefit to farmers in tbe cultivation of grapes, corn, cotton, tobacco, and, indeed, of any crop which requires the frequent stirring of tbe soil, either for the purpose of retaining moistnre, or for killing the grass and weeds. The beam of the hoe is like the beam of the ordinary horse hoe, or the one-horse plow, but there the resemblance ends. The handles, at their former end, are attached to a plate of iron throngb which a bolt extending upward from or through the beam, passes, this bolt constituting a pivot upon wbich the handles turn, laterally, in either direction. Between tbe handles, and nearly over the end of the beam, is a regulating brace, provided with several holes, into any of which tbe iron stay or support, extending upward from the end of the beam, may pass. The object of this brace is that the handles may be set, so that in plowing among grape vines, tobacco, corn or cotton, tbe handles can be arranged at will, in line or ont of line with the beam, and the hands be freed from contact with the row being plowed, wbile the person holding the hoe walks in the center between the rows, and tbe hoe itself works close to one or the otber of tbe rows. The standard of the boe is in two parts, and constitutes both standard and brace. The front and rear edges of these parts are provided, at their base, with notches which catch upon, and are firmly held in, the boe point, by means of a wedge wbich drops between tbe two parts of the standard, and holds tbe point and standard as firmly together as if they were one piece. The hoe point is reversible, and is provided with a mortise throngh its center for the reception of the double standard and wedge. The shares, which are also reversible, extend both ways from the point at an angle not greater than 90° from each other. Each of these sbares is provided witb two sharp cntting edges, for tbe purpose of economy, and also that the natural use and wear of the shares may effect the sharpening of tbeir own edges, for the use of the front edges are found to wear most rapidly upon the under side; and by the novel provisions of the inventor, the shares are readily turned and the used edge presented, or it is changed end for end, and a sharp edge is presented to the soil and weeds, without recourse to a blacksmith. Another prominent feature of this hoe is that a small mold board is attached toward the outer end of one or both its shares, the purpose of which is the throwing of a small quantity of soil to the row wben desired, while, at the same time, the great body of the soil and weeds, wbich has been cut and lifted up by the sbares, is dropped loosely behind tbe hoe. We are informed that the hoe, in its workings, exceeds the most sanguine expectations of the inventor.

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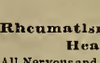
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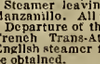
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NOTICE.—There are delinquent upon the following described stock, an account of assessment levied on the fifteenth day of June, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
C H Light	21	95	$95 75
Fred Lepplen	96	12½	1 5 00
Geo F Sharp	53	6	60 00
H P Hildreth	115	11	110 00
Mrs B A Aud	124	47 21-32	476 55
Jacob Bartz	123	15	150 00
A A Rand	135	1094 15-32	10904 00

And in accordance with law, and an order of the Board of Trustees, made on the fifteenth day of June, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, by Jones & Bendixen, auctioneers, on the third day af August, 1868, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expanses of sale.

D. H. CROWE, Secretary.

Office, No. 228 Clay street San Francisco. jy18

Eclipse Gold and Silver Mining Company, Lander County, Nevada.

NOTICE.—There are delinquent upon the following described stock, on account af assessment levied on the fifteenth (15th) day of June, 1868, the soveral amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
C E McLane	143	10	$100 00
C E McLane	144	10	100 00
C E McLane	145	5	50 00
A A Rand	154	1535	15,350 00
J H Foster	5	1	10 00

And in accordance with law, and an order of the Board of Trustees, made an the fifteenth (15th) day of June, 1868, so many shares of each parcel af said stock as may be necessary, will be sold at public auction, at the office af the Company, by Jones & Bendixen, auctioneers, on the third day of August, 1868, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. A. DRINKHOUSE, Secretary.

Office, 223 Clay street. jy18

Scontor Silver Mining Company.—Location of Mine: Storey County, State of Nevada.

NOTICE.—Thera are delinquent, upon the following described stock, on account of assessment levied on the ninth (9th) day of June, 1868, the several amounts set opposite the names of the respective shorcholders as follows:

Names.	No Certificate.	No. Shares.	Amount.
Blake, Wm	not issued	30	$3 00
Bell, Rosanna	6	30	3 00
Bell, Joseph	7	15	1 50
Blake, John F	not issued	15	1 50
Barry, Robert	not issued	30	3 00
Bell, Mrs. B	8	60	6 00
Corcoran, Wm	not issued	320	32 00
Corbett, John	not issued	60	6 00
Edwards, A L	4	30	3 00
Farrell, Wm	not issued	30	3 00
Molony, M	10	15	1 50
McCann, A	not issued	15	1 50
McGrath, F	3	30	3 00
Murphy, John	not issued	150	15 00
McMahon, J M	not issued	15	1 50
Neagle, Wm	not issued	1688	168 80
Neagle, Wm	13	45	4 50
Neenan, A	12	15	1 50
Ockel, Chas	11	30	3 00
Pendergrass, Wm	9	15	1 50
Schoeneman, H	5	15	1 50
Sumner, Mrs. Kate	not issued	30	3 00
Shiel, Michael	not issued	30	3 00
Stolz, F	not issued	15	1 50
Wood, John	not issued	30	3 00

And in accordance with law, and an order of the Board of Trustees, made on the ninth (9th) day af June, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom af Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on the thirty-first day of July, 1868, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office, 408 California street, San Francisco. jy18

Caution!

Whitman Gold and Silver Mining Company. Location of Works: Indian Springs District, Lyon County, Nevada.

Notice is hereby given, that the following named shares in the capital stock of the Whitman Gold and Silver Mining Company, designated by the number of certificate of each parcel of said stock, were sold as by law provided, at public auction, on the fifteenth day of July, 1868, for delinquent assessment thereon, and will not be transferred by said Company:

No. Certificate	101	No. Shares	5
" "	245	" "	30
" "	259	" "	15
" "	268	" "	15
" "	269	" "	20

T. W. COLBURN, Secretary,
Whitman G. & S. M. Co.

San Francisco, July 16, 1868. jy18

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Yosemite Consolidated Mining Company.—Location of Works: Santa Fe District, Lander County, Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the ninth day of June, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No Certificate.	No. Shares.	Amount.
Bowle, G W	177	100	$75 00
Brandow, Peter	181	100	75 00
Brandow, Peter	182	110	82 50
Gillis, Joseph	184	40	30 00
Guysi Chas F	178	100	75 00
Hawk, Nathan	179	20	15 00
Mathews, Amos	55	24	18 75
Mathews, Amos	56	25	18 75
Mathews, John	180	10	7 50
Myers, George	170	10	7 50
Spencer, Wm A	169	15	11 25

And in accordance with law, and an order af the Board of Trustees, made on the ninth (9th) day of June, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., No. 327 Montgomery street, San Francisco, on Wednesday, the fifth day of August, 1868, at the hour of 12 o'clock, noon, of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

DAVID WILDER, Secretary.

Office, No. 613 Kearny street, corner of Sacramento street, San Francisco, Cal. Office hours from 12 to 2 P. M. jy18

Mining Notices--Continued.

Adelaide Gold and Silver Mining Company, Flowery District, Storey County, Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the twentieth day of May, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificates.	No. Shares.	Amount.
M J Newmark	507	20	$80 00
Daniel Meyer	98	50	50 00
Daniel Meyer	251	35	35 00
N Lanling	114	10	10 00
Thomas S Russel	190	10	10 00
Estate of Henry Dreschfeld	392	176	176 00
Estate of Henry Dreschfeld	324	25	25 00
Estate of Henry Dreschfeld	393	5	5 00
Estate of Henry Dreschfeld	427	61	61 00
Estate of Henry Dreschfeld	466	50	50 00
Edward Cohn	458	25	25 00
J L Schroeder	428	75	75 00
L Rosenbaum	503	222	222 00
H Schmidt	492	6	6 00
H Schmidt	494	5	5 00
H Schmidt	424	10	10 00
J J Robbins	489	10	10 00
J J Robbins	490	10	10 00
J J Robbins	506	5	5 00
J N Burgess	513	50	50 00
M Waterman	509	30	30 00
R W Kind	440	6	5 00
R W Kind	441	10	10 00
R W Kind	479	10	10 00
Jas Adelsdarfer	224	15	15 00
B Gattel	352	10	10 00
B Gattel	359	10	10 00
B Gattel	360	10	10 00
B Gattai	538	10	10 00

And in accordance with law, and an order of the Board of Trustees, made on the twentieth day af May, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on the sixteenth day of July, 1868, at the hour of 11 o'clock A. M. of said day, for cash, in U. S. gold coin, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

PAUL NEUMANN, Secretary.

Office, No. 411 California street. jy4

POSTPONEMENT.—The above sale is hereby postponed until Friday, the thirty-first day of July, 1868, at the same hour and place. By order of the Board of Trustees.

PAUL NEUMANN, Secretary.

San Francisco, July 14, 1868. jy18

Adelia Gold Mining Company, Rock Creek, Sierra County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the thirteenth day of May, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Adelia Baldwin	bal 5	795	$795 00
D O Stevens	24	12	12 00
D O Stevens	25	408	408 00
G W Walker	bal 30	275	275 00
J H Reiners	bal 26	75	75 00

And in accordance with law, and an order of the Board of Trustees, made on the thirteenth day of May, 1868, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the salerooms of Messrs. Olney & Co., 426 Montgomery street, San Francisco, on the sixth day of July, 1868, at the hour af 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. BUFFINGTON, Secretary.

Office, Room 37 New Merchants' Exchauge, California street, San Francisco. jc20

POSTPONEMENT.—The above sale is hereby postponed until Monday, the twentieth day of July, 1868, at the same hour and place. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary.
By D. O. STEVENS, Secretary pro tem.

San Francisco, July 6, 1868.

Bear River Mining Company, Nevada County, California.

Notice is hereby given, that at a meeting af the Board of Trustees of said Company, held an tha tenth day of June, 1868, an assessmont of one dollar par shara was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the fifteenth day of July, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the third (3d) day of August, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary.

Office, Room 37 New Merchants' Exchange, California street, San Francisco. je13

POSTPONEMENT.—The day tor docming stock delinquent on the above assessment is hereby postponed until the twenty-ninth day of July 1868, and the sale thereof until Monday, the seventeenth day of August, 1868. By order of the Board of Trustees.

jy18 J. M. BUFFINGTON, Secretary.

Postponements and Alterations.—Secretariesare requested to give notice of postponements, or alterations which they may desire made in their advertisements at their earliest convenience. New advertisements should be handed in as early as possible.

Chiponcon Mining Company—District of Ures, Sonora, Mexico.

Notice is hereby given, that at a meeting af the Board of Trustees of said Company, held on the ninth day of July, 1868, an assessment af five ($5) dollars per share was levied upon the capital stock af said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirteenth day of August, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirty-first day of August, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees

JOHN F. LOHSE, Secretary

Office, 318 California street, up-stairs, San Francisco. jy11

Fogus Mill and Mining Company.—Location of Works: Amador County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held an the third day of June 1868, an assessment of five dollars ($5) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, No. 318 Front street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eleventh day of July, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twenty-eighth day of July, 1868, to pay the delinquent assessment, together with costs of advertising and expenses af sale. By order of the Board of Trustees.

JOHN J. SCOTCHLER, Secretary.

Office, No. 318 Front street, San Francisco, Cal. je6

POSTPONEMENT.—The day for deeming stock delinquent on the above assessment is hereby postponed until Tuesday, the twenty-first day of July, 1868, and the sale thereof until Wednesday, the twelfth day of August, 1868. By order of the Board of Trustees.

jy11 JOHN J. SCOTCHLER, Secretary.

Folsom Street and Fort Point Railroad and Tunnel Company, San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on tha nineteenth day of June, 1868, an assessment af five dollars per share was levied upon the capital stock af said Company, payable immediately, in United States gold coin, to Caleb T. Fay, at the office of the Company, Room No. 16 Stevenson Block, on the southwest corner of Montgomery and California streets, San Francisco, Cal.

Any shares of stock upon which said assessment shall remain unpaid on the twentieth day of July, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the eighth day of August, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board af Trustees.

JOS. M WOOD, Secretary.

Office, Room No. 16 south west corner of Montgomery and California streets. ju27

Gold Hill Tunneling Gold and Silver Mining Company.—Location: Gold Hill Mining District, County of Storey, State of Nevada.

NOTICE.—The Fifth Annual Meoting of the stockholders af tho above named Company, will bo held at their office, 414 California street, San Francisco, Cal, on SATURDAY, the eighteenth day of July, 1868, at 10 o'clock A. M., for the purpase of electing Trustees to serve for the ensuing year, and such other business as may properly come before it.

R. WEGENER, Secretary.

San Francisco, June 13, 1868. je13

Globe Gold and Silver Mining Company.—Location of Works: Monitor District, Alpina County, California.

NOTICE.—Thero are delinquent, upon the following described stock, on account af assessment levied an the twenty-fifth day of May, 1868, the several amounts set opposite the names af the respective shareholders as follows:

Names.	No. Certificate.	No. shares.	Amount.
George Hogan	47	5	$10 00
J W Clark	49	5	10 00
H A Bartholomew	79	100	200 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-fifth day of May, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, on the eighteenth day af July, 1868, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

V. B. POST, Secretary.

Office, Lombard street, one door from Dupont, south side, San Francisco. jy4

Hope Gravel Mining Company. Locatlon of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees af said Company, held on the fifteenth day of June, 1868, an assessment (No. 24) of one dollar ($1) per share was levied upon the capital stack of said Company, payable immediately, in United States gold coin, to the Secretary, at his office, No. 533 Kearny street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on Wednesday, the twenty-second day of July, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the twelfth day of August, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary.

Office, No. 533 Kearny street, corner of Sacramento, San Francisco, California. Office hours from 12 to 2 P. M. je20

Silver Sprout Mining Company.—Location of Works and Mines: Kearsarge District, Inyo county, Cal.

NOTICE.—The Annual Meeting of Stockholders of tha Silver Sprout Mining Company, for the purpose of electing Trustees to serve for the ensuing year, will be held at tha office of the Company, No. 418 California street, on TUESDAY, JUNE THIRTIETH, 1868, at 3½ o'clock, P. M.

T. B. WINGARD, Secretary.

San Francisco, June 5, 1868. je6-4w

The above meeting is postponed to Saturday, July 11th, 1868, at the same hour and place.

jy4 T. B. WINGARD, Secretary.

Siempre Viva Gold and Silver Mining Company, District of Zaragoza, Sinaloa, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifteenth day of June, 1868, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, 318 California street, up stairs, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirty first (31st) day of July, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the seventeenth day of August, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary

Office, 318 California street, Up stairs, San Francisco, California jy4

Machinery.

VARNEY'S
PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has everrequired repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Settlers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the **PACIFIC FOUNDRY,**

1vl San Francisco.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077

3vl3f SAN FRANCISCO.

Notice to Miners,
Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG,

8vl3-1y Stove Store, No. 125 Clay street, below Davis.



REMOVAL.

E. O. HUNT'S

Manufactory of

Windmills, Horse-Powers and Pumps,

Has been removed from the old stand on Second street, to

114 and 116 Spear st.,

Next above Stuart and south of Mission st., San Francisco.

Hunt's Patent Wind-Mills, Tread Horse-Powers, Sweep Horse-Powers, (for one or four horses), Sawing Machines, Pumps of all kinds for shallow or deep wells,—including Hunt's Submerged Pump, Hunt's Globe Pump, and Hunt's Single and Double-Acting Pump.

Pumping Machines and general Machinery kept constantly on hand and built to order.

Also, Water Tanks of all sizes.

Having put up large new buildings specially for my business, with greatly increased facilities in the way of room and steam power, I shall be able to build everything in my line at greatly reduced rates.

All desirous of procuring water for irrigating or other purposes, are invited to examine my articles before purchasing elsewhere.

23vl6 **E. O. HUNT, Proprietor.**

OIL STOVES!

MORRILL'S

Petroleum and Universal Oil Stoves

Have proved themselves a superior substitute for Wood and Coal Stoves, in that they work quicker, are neater, bake and broil better, are MORE ECONOMICAL generally. They are portable, can be used in any room, with or without chimney, as they emit no smoke, soot or ashes. There are nine different sizes, designed for barbers, dentists, and other mechanical purposes—as well as for cooking. They are perfectly safe.

I now offer a reward of **$100** for every Petroleum Stove exploded by Naphtha delivered at my store, 15 Geary street, where they are for sale by

M. B. BULLARD,

Proprietor of Petroleum Stove for California, and Agent for Universal Oil Stove for Pacific Coast.

N. B.—Petroleum Stoves burn Naphtha converted into a gas. Universal Oil Stoves burn Naphtha, Benzine, or Coal Oil, with non-illuminating flame and light on a wick as easy as a lamp. 21vl6 3m

OILS! OILS! OILS!

MACHINE OILS OF ALL GRADES,

Pure Lard Oil,

SPERM OIL, PARAFFINE OIL, Etc., Etc.

EXCELSIOR MACHINE OIL,

The Best in use.

A. C. DIETZ & CO., Sole Agents

319 and 321 Front street, San Francisco.

22vl6-3m

Fire-Brick and Fire-Tile.

THE UNDERSIGNED KEEPS ON HAND A GENERAL assortment of Fire-Brick, Fire-Clay, Brick-Dust, and Tiles of different sizes. LIME, PLASTER AND CEMENT. Corner of Market and First streets, San Francisco. Branch Store, Sixth street, Sacramento. Millmen and Gas Companies supplied at short notice.

7vl6 6m **H. T. HOLMES.**

Fire, Hose and Machine Belting.

THE SUBSCRIBER CONTINUES TO MANUFACTURE Oak Tanned Leather Fire Hose, warranted superior to Eastern Hose, manufactured at the Sixth Street Tannery, San Francisco.

21vl6tf JOHN J. FULTON.

GLASGOW
Iron and Metal Importing Company,

Nos. 25 and 27 Fremont street,

SAN FRANCISCO,

Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings, which they offer to the trade on liberal terms.

21vl6-3m W. McCRINDLE, Manager.

NELSON & DOBLE,

AGENTS FOR

Thomas Firth & Sons' Cast Steel, Files,

Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks,

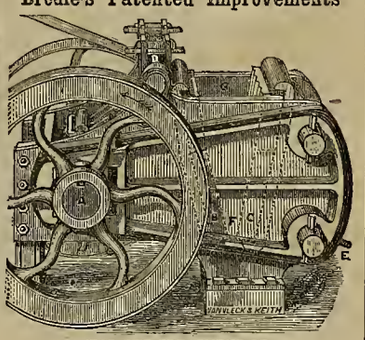
Stone Cutters', Blacksmiths' and Horse-Shoers' Tools,

319 and 321 Pine Street,

Between Montgomery and Sansome, San Francisco.

10vl4qr

Brodie's Patented Improvements



[FOR THE TREATMENT OF

Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:

No. 1—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price..... $600

No. 2—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour..... 850

No. 3—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour..... 1,200

These Crushers have been erected at several mines in the State of Nevada, and others in Calaveras, Tuolumne and Mariposa counties, to whom applicants can be referred as being the most efficient, cheapest, and least weight compatible with strength and durability, of any Crusher yet erected.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

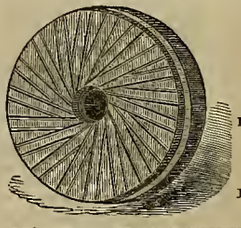
A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.

JAMES BRODIE, Fulton Foundry, or
CHARLES RADCLIFFE,
Express Building, 402 Montgomery street,
12vl3tf San Francisco.

C. F. TRAVIS,



Manufacturer of

FRENCH

BURR

Mill-Stones,

AND

PORTABLE

MILLS.

Agent for

Dufour & Co's

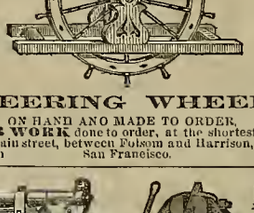
Celebrated

DUTCH ANCHOR BOLTING CLOTHS.

Mill Picks, Mill Picks Dressed, Mill-Stones Repaired and Rebuilt; Mill Stones Balanced with Fellenbaum's Patent Balance, of which I am sole Proprietor for California, Oregon, and Washington Territory. C. F. TRAVIS,

5vl6tf 109 Mission street, San Francisco.

ROBERT BRAGG,

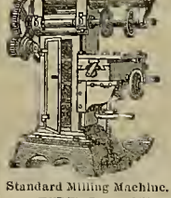


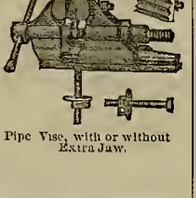
STEERING WHEELS

ON HAND AND MADE TO ORDER.

☞JOB WORK done to order, at the shortest notice. Main street, between Folsom and Harrison,

23vl6-3m San Francisco.





Pipe Vise, with or without Extra Jaw.

Standard Milling Machine.

UNION VISE COMPANY,

OF BOSTON,

Make Vises of all sizes and kinds, for Machinists, Blacksmiths, and all other heavy mechanical work. Wood workers' and other Vices, with Covered Screw, for general mechanical work. Standard Milling Machines, very simple and easily adjusted. Address, Boston, Mass. 23vl6-1y

Belting and Lacing.

AN ENTIRELY NEW AND SUPERIOR ARTICLE OF exclusively mechanical preparation, made to order on short notice, and for sale by H. ROYER, at 435 Brannan street, between Third and Fourth. Refers to Eisen Bros., Pioneer Mills; Martin Steen, National Mills; Horace Davis, Golden Gate Mills; also, N. W. Spaulding, Saw Manufacturer. 6vl6-3m



THE FLORENCE

RECEIVED THE HIGHEST PREMIUMS

At all the most important Fairs held in the United States in the year 1867. Gold Medals at the American Institute Fair, New York; Mechanics' Association Fair, Lowell; Maryland Institute Fair, Baltimore. Highest Premium at the New York State Fair, Buffalo, and at the Great New England Fair, Providence. At the Fairs held on the Pacific Coast, this machine has taken

Every First Premium

Awarded on Family Sewing Machines in the LAST FIVE YEARS. If there is a Florence Machine within one thousand miles of San Francisco, that is not giving entire satisfaction, if I am informed of it, it will be attended to without express charge or expense of any kind to the owner.

SAMUEL HILL, Agent.

11vl6-4m 111 Montgomery street, San Francisco.

WE ARE NOW OFFERING
OUR IMMENSE STOCK

—OF—

Fine Custom Made Clothing

—AND—

Gents' Furnishing Goods

AT PRICES THAT DEFY COMPETITION.

Our Stock of Clothing Consists of

ALL THE LATEST STYLES

BOTH OF MATERIAL AND FINISH.

A Large Assortment of

Trunks, Valises, Carpet Bags, Blankets, Etc.,

AT EXTREMELY LOW PRICES.

J. R. MEAD & CO.,

8vl0 Cor. of Washington and Sansome streets

LOUIS FALKENAU (State Assayer). H. G. HANKS.

Pacific Chemical Works.

Office 619 Montgomery Street,

SAN FRANCISCO,

Laboratory, Sixteenth street, near Folsom.

FALKENAU & HANKS,

Manufacturing and Consulting Chemists.

Particular attention given to the Analysis of Ores, Minerals, Metallurgical Products, Mineral Waters, Soils, Commercial Articles, etc.

Fire and Marine.

Union Insurance Company,

OF SAN FRANCISCO.

Nos. 416 and 418 California Street.

Cash Capital (U. S. Coin).....$750,000

THE CALIFORNIA LLOYDS

Having consolidated with the Union Insurance Company, January 1, 1866, are now prepared to effect

Marine as well as Fire Insurance,

upon the most favorable terms.

☞Losses promptly and equitably adjusted and paid in Gold Coin.

OUSTAVE TOUCHARD, President.

CHARLES D. HAVEN, Secretary.

GEO. T. BOHEN, Surveyor. 21vl6-1amtf



STOVES

AND

TIN WARE,

WOODEN WARE

WILLOW

WARE,

BIRD CAGES,

Etc., Etc.



Lock's Patent Self-Lighting Gas-Burners, by

GEO. H. CHICK,

At 834 Market street, San Francisco.

21vl6-3m

ELECTROTYPE CUTS, ENGRAVINGS, ETC.—Our Job Printing Office is abundantly supplied with elegant engravings, ornaments, and other embellishments to suit the various branches of industry in this State

REPORTED CURE FOR CANCER.—A Milwaukee paper states that some eight months ago Mr. T. B. Mason, of that city, ascertained that he had a cancer on his face the size of a pin. It was cut out by Dr. Wolcott, and the wound partially healed. Subsequently it grew again, and, while he was at Cincinnati on business, it attained the size of a hickory nut. He remained there since Christmas under treatment, and is now perfectly cured. The process is this: A piece of sticking plaster was put over the cancer, with a circular piece cut out of the center a little larger than the cancer, so that the cancer had a small circular rim of the healthy skin next to it exposed. Then a plaster made of chloride of zinc, blood root and wheat flour was spread on a piece of muslin the size of this circular opening, and applied to the cancer for twenty-four hours. On removing it, the cancer will be found burnt into and appear of the color and hardness of an old shoe sole, and the circular rim outside of it will appear white and parboiled, as if scalded by hot steam. The wound is now dressed, and the outside rim soon separates, and the cancer comes out in a hard lump, and the place heals up. The plaster kills the cancer, so that it sloughs out like dead flesh, and never grows in again. The remedy is said to have been discovered by Dr. Fell, of London, and has been used by him for six or eight years, with unfailing success, and not a case has been known of the reappearance of the cancer when the remedy has been applied.

A VARIETY of beautiful colors, corresponding to those of the rainbow, can be imparted to zinc surfaces, by a simple chemical application continued a length of time proper for the desired color. It is necessary that the metal be pure, and especially free from lead. It is therefore to be rubbed with silicious sand moistened with hydrochloric acid, then dipped in water and rubbed vigorously with blotting-paper. The zinc is then immersed in three parts by weight of dry tartrate of copper in four parts caustic soda, with forty-eight parts distilled water, the whole at a temperature of about 50 deg. Fah. The colors will appear successively, in the prismatic order, according to the period of immersion. In two minutes the violet will appear; in three, dark blue; in four and a half, a golden yellow; in eight and a half, a red purple. Intermediate terms give intermediate tints. When colored, the zinc is well washed with water, and for greater permanence of color may be varnished.

TRANSPARENT SOAP.—A patent has just been issued to Morgan W. Brown, of New York City, for the following method of making transparent soap:

Dissolve or melt any settled curd or grained soaps in any suitable vessel to which heat can conveniently be applied. As soon as the soap is melted and hot, pour into it from twenty-five to thirty pounds of sal-soda, previously melted without water, to every hundred pounds of soap, while hot. Agitate the soap and sal-soda and very thoroughly incorporate the paste at a low degree of heat, as it mixes much better than at a high degree. Now pour slowly from 100 to 125 pounds of concentrated glycerin to every 100 pounds of the soap. Keep up a very moderate heat, and agitate the whole until it is a liquid, and thin as a syrup, and as soon as it forms a thin transparent fluid, let it settle well under cover, and draw off the settled fluid into the cooling molds or soap frames, when, as soon as it is cold and hard, it is cut into bars or cakes, in the usual manner, or cast in molds, presses, etc.

A VERY PRETTY EXPERIMENT.—Take a sheet or piece of ordinary writing paper, say commercial note, and saturate it in a solution of bi-chromate of potassium, 1 oz., with water, 3 oz., and dry it in the sun. Cut the paper into squares of about three inches, and double them back and forth until the form—a zigzag section—will stand on a table, and ignite the top of the slip. The result will be a slow combustion, the products of the combustion growing out of the edge of the paper like spears of grass and curling over to represent very faithfully the curving and depending leaves of the palm and cane. If the process is carried on without drafts of air the final result will be a bunch of beautiful blue-green filaments, while the process of combustion itself will prove a means of pleasant recreation.

BRAZIL has been driven to some extremity by the Paraguayan war. At the headquarters of the army, at Tayi, $220 has been willingly paid for a ton of coal, and cannon balls are considered cheap at $10 each.

SOMBRERO PHOSPHATE COMPANY.—The island of Sombrero, which forms one of the groups of West India Islands, and is situated not very far from the Virgin Islands and the Island of St. Thomas, consists almost entirely of a deposit of phosphate of lime, which is very valuable, and much used for agricultural purposes, many thousands of tons being annually shipped to Europe and America. The island is leased from the British Government by a limited liability company, called the Sombrero Phosphate Company, which has its seat of direction in London.

There are at present about 300 colored laborers employed by the company to raise this phosphate, under a well organized staff of English officers. The mining operations are being carried on at present with much vigor, and are directed chiefly to subaqueous blasting, by means of which a very rich quality of phosphate is raised. The quantity of this article may be said to be practically inexhaustible, and the demand is very much on the increase, both in Europe and America, necessitating a continued increase in the extent of the company's operation.

TRANSFORMATION OF MOTION INTO HEAT. Numerous instances of this transformation occur daily; that it certainly takes place, even in the case of fluids, has been demonstrated in the most satisfactory manner by M. Rennie. He boiled an egg by merely placing it in a vessel which contained about ten pounds of water, and which was made to revolve 232 times in a minute. It is clear, that in this case, motion was the only possible source of heat, and the result was the more striking, as the friction of fluids is so very much less than that of solids.

Another striking instance of the conversion of motion into heat, recently occurred in Lowell, Mass., where a turbine water wheel, resting on a block of case-hardened iron, the pin of the shaft being of steel, and two and a half inches thick, the turbine suddenly began to run unsteady, and an examination showed that both pin and block were partially fused. And this had occurred, though placed in a current of 4,500 cubic feet of water.

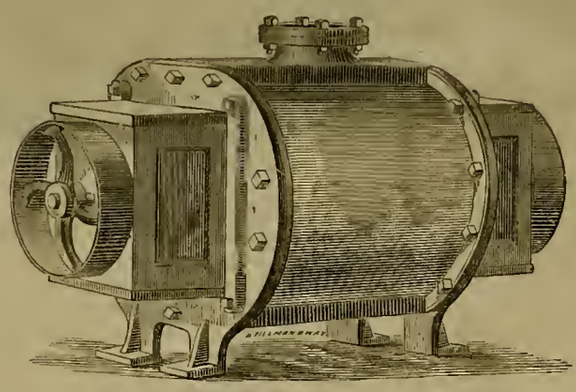
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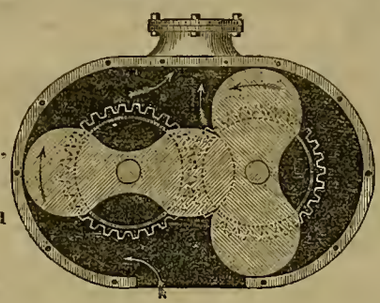
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INTERESTING TO BOOT AND SHOEMAKERS. Mr. Evan T. Rogers, who has recently devised a new system for marking counters and straps, and all ornamental marking on leather work, for machine or hand sewing, by which he dispenses with all patterns, rules and lines, is now introducing his device among the trades in this State. By the use of his device the impressions are made by one or two blows with a hammer on the markers, which are made of metal or other hard substance; the hacks at the same time being protected from injury by a pad of india rubber or soft leather. This device also makes a channel for the stitches to drop into, so that the friction from wear cannot destroy the material of the thread. This renders the device valuable for allowing of the use of light tension on the machine. One man can perform more work, and do it more correctly by the aid of this invention, than three can accomplish by the old method; moreover it does away with all difficulty between the marker and operator. The device will commend itself to the confidence of all manufacturers after they have employed it in the manufacture of one case of boots. The invention was patented in February, 1868, and State rights for its use will be sold on application to the inventor, E. T. Rogers, San José, Cal.

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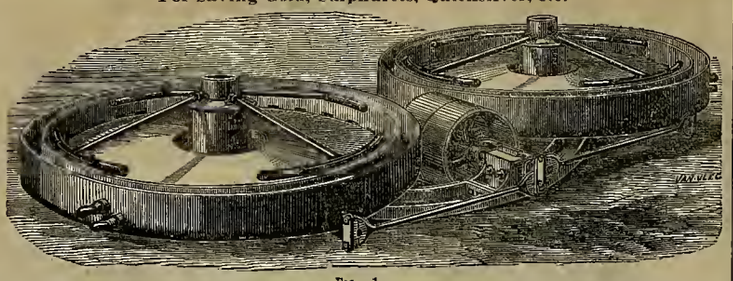


FIG. 1.

There is no description of machinery of so much importance to the mining interests of California, at the present time, as that for the separation of sulphurets. Many machines have been tried, and abandoned; and none seems to meet the requirement of the mining interest so well as that now patented by Mr. Hungerford, which is an improvement on the well known Hungerford & Prater Concentrator, with which his name is already so familiar.

Fig. 1 is a perspective view of that pan as now constructed. For economy of space and machinery, one shaft is made to drive two pans, which are set and arranged as shown in the engraving.

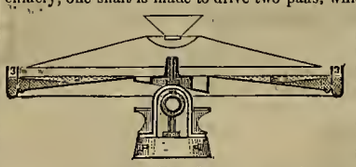


FIG. 2.

Fig 2 is a section through the center of the pan, showing how it operates in separating the sulphurets, as well as the great improvement to the pan, which consists of the addition of a circular trough outside the periphery.

A full description of the principle and mode of action of this pan, is described in circulars, which will be forwarded to any party who may desire them.

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NEWCASTLE, Placer County, Cal., June 23, 1868.

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Very respectfully, L. E. ATCHISON, Metallurgist.

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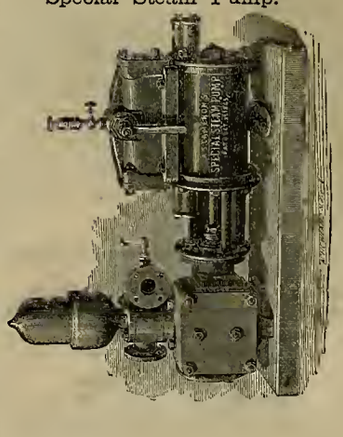
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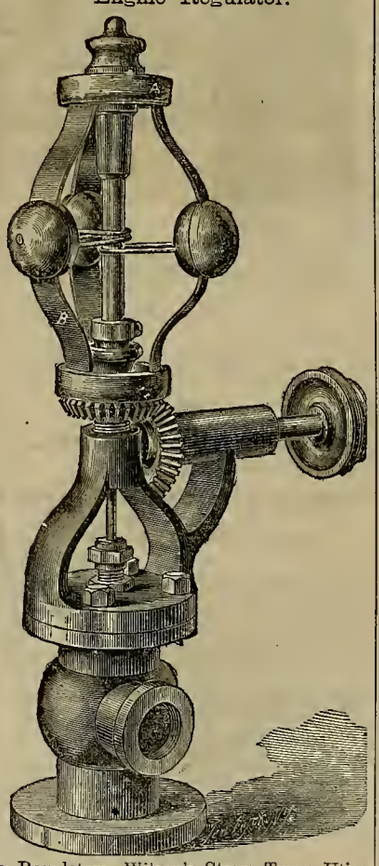
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MECHANICAL MISCELLANY.—Bearings for Shafts; How to Lay Shingles; Scythes; To Prevent Boiler Explosions; Artificial Marble; Durability of Buried Iron Pipes.

SCIENTIFIC MISCELLANY.—Carbon in Iron; Refraction; Extinct Animals of this Continent; A Fragrant Substance from Resin; Oil Upon Water.

MINING SUMMARY—Comprising late intelligence from the various counties and districts in California, Arizona, British Columbia, Colorado, Idaho, Montana, New Mexico, Nevada, Oregon, Wyoming and Utah.

New Patents and Inventions.
San Francisco Mining Stockholders' Directory.
San Francisco Weekly Stock Circular.
New Incorporations—List of Officers.
Notices to Correspondents.

The Mechanics' Institute Pavilion.

We give herewith a spirited illustration of the new Mechanics' Institute Pavilion, now nearly completed on Union Square, as we expect it will appear on the day of its opening, when large crowds will be rushing thither for admission.

THE EXTERIOR OF THE PAVILION.

In viewing the Pavilion, as shown in the engraving, the observer is supposed to be standing at the corner of Stockton and Post streets. The structure is a parallelogram in form, with its greatest length running east and west. Its entire length is 337 feet by a width of 205, exclusive of boiler room. The number of square feet of ground floor is 72,000, against 55,000, occupied by the pavilion of 1865-6. It is built entirely of wood, and the chief points aimed at in its construction have been lightness, strength and economy of cost and space. In securing these advantages, the architect, Mr. William Patton, has succeeded most admirably—such is the universal verdict.

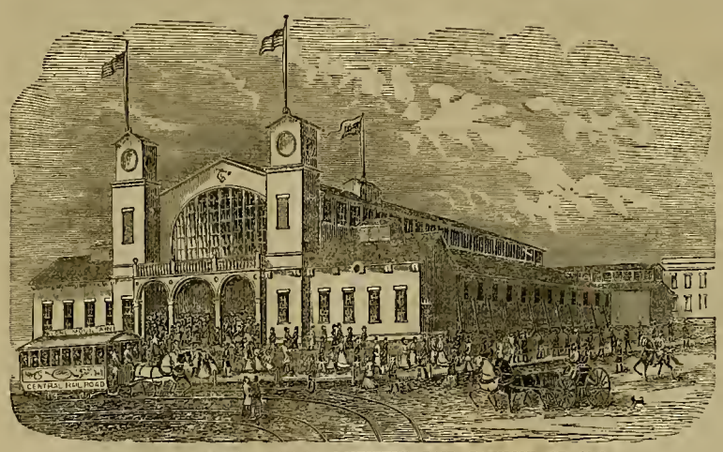
The main hall of the building is 272 feet long and 180 feet wide, with a central, arched nave of the same length, 80 feet wide and 68 feet high, occupying the space beneath the elevated roof shown in the engraving. Around the entire nave runs a gallery nine feet wide, with twenty feet width at the end connections, which will be used mainly for promenade purposes. It will be reached by four wide stair-cases, two upon either side, and a steam hoistway will be elegantly fitted up, near the entrance, after the style of the most approved hoist-ways in use at the hotels in the Atlantic States and Europe. This, of itself, will form quite a feature in the exhibition—being the first of the kind erected on this coast.

The Pavilion will be lighted by continuous windows along both sides, while the front will consist of one semi-circular window, of forty feet radius, arranged as shown by our artist. The whole will be brilliantly illuminated in the evening by upwards of 1,200 gas burners.

The main entrance is from Stockton street, and is flanked by two towers 80 feet high, surmounted by flagstaffs. The grand vestibule is 50 feet wide, and leads direct to the body of the building.

The wing shown upon the right of the entrance is reserved for the exhibition of musical instruments, for which purpose its acoustic properties are very well adapted. This room will be 35 by 60 feet in area, and will be used as occasion may require for concerts. Adjoining this department on the left, and in the base of the right hand tower are the Committee Rooms. In each of the towers, which are sixteen feet square, there will be four rooms.

It was originally intended that the room on the left of the entrance, corresponding to the Music Room, should be occupied as a restaurant, with a ladies' dining room and dressing room adjacent; but the calls from exhibitors for space is so much greater than was anticipated, that it is now proposed



VIEW OF THE MECHANICS' INSTITUTE FAIR PAVILION OF 1868.

to occupy this room also for exhibition purposes, and to erect an additional room on the south side of the main building for a restaurant, etc.

THE ART GALLERY

is placed across the rear of the main building, and is 205 feet long by 30 in width. It will receive an abundance of light from above, by a continuous line of perpendicular sash, placed upon the roof, as shown in the engraving, where the extreme northern end of the gallery is seen. Easy and abundant access and egress to and from the Art Gallery will be obtained by five passageways—one from the nave, and two from each of the wings or aisles of the main hall. The walls of the gallery will be tinted so as to subdue the sharpness of the light, and relieve the paintings, photographs, etc., which will be placed upon the walls. This will form a most interesting feature of the exhibition, far exceeding anything of the kind hitherto witnessed on this coast. The various artists of the city have largely engaged space—so much so, that a portion, if not all the photographs will have to be placed across one of the ends of the gallery in the main building, which will be made of extra width, and equally well arranged and lighted for such purpose as the Art Gallery will be.

On the north side of the main building, and near to the projecting wing, to be used as an exhibition room for musical instruments, two large rooms will be put up to contain the boilers and engines which are to supply steam for the motive power to be used during the exhibition.

THE INTERIOR.

It is designed to make the effect of the entrance something altogether superior to what has heretofore been attempted. As the visitor advances from the grand vestibule, he will behold an immense arched nave 272 feet in length, 80 in width and 68 feet high, flanked on either side by aisles of corresponding depth—30 feet in hight and 40 feet wide, and from which it will be separated by a double row of columns or ribs, upon which rest eighteen magnificent arches, each of eighty feet span, and supported upon piers, which spring up through the floor from the solid earth below. These columns or ribs have been formed by bolting and clamping together eight planks, each two by six inches. So firmly has this work been done, that after the clamps which were used to hold the planks together were removed, the latter did not spring apart even one-eighth of an inch. Around the base of the arch are placed the spacious promenade galleries, already described. The view from either end of these galleries, sweeping as it will through the entire main building, will be a most magnificent one. The area of the galleries will be about 3,000 superficial feet.

In the center of the nave an elegant fountain will be erected, with an open space around it; while along the middle, east and west from the center, the horticultural display will be arranged.

The working machinery will be placed upon the right of the entrance and within the northern aisle. The boilers and engine to drive the same, will be placed outside of the main northern wall, in the open space seen in the engraving between the Music Hall and the Art Gallery. In the south aisle and around the sides of the nave, the miscellaneous exhibitions will be duly arranged, in classes, and separated by convenient avenues running mainly from end to end of the building.

CONSTRUCTION AND COST.

The whole of the work of construction has been done by day's work, under the superintendence of the architect and the Committee. The building will cost, in all, about $30,000. The quantity of lumber used in its construction is about 600,000 feet, and 700,000 shingles have also been expended in roofing. The whole of the exterior work is now nearly finished. The interior will be completed by the first of August, when the Pavilion will be ready for the reception of goods.

The goods and manufactures to be exhibited will be divided into thirty classes, which are given in full on another page.

OUR OCEAN STEAM MARINE.—The ocean steamship marine belonging to this port, is rapidly increasing in importance. Six round trips are now made between this port and Panama every month. In addition to the New York connections at the Isthmus, these steamers also connect on the east side with both English and French lines direct to Europe; and with Australian, Central and South American lines on the west side of the Isthmus. We have also a monthly line of steamers to China and Japan; steamers making the round trip every twenty days to the Sandwich Islands; the round trip as often, by another line, to Mexican ports; a semi-monthly line to British Columbia; a tri-monthly to Oregon; one coast line to ports in this State, to the north, and another to ports to the south of this city. The fleet required to accomplish this work number about forty steamers—nearly all first class and aggregating 60,000 of tonnage.

Our river fleet to various portions of the extensive Bay of San Francisco, upon the upper and lower Sacramento river, and on the San Joaquin, is also equal to the equipment for any similar trade in the interior waters of any country in the world. The sea-going sailing craft on its way to this port, on the 1st inst., was 128 vessels, aggregating fully 100,000 tons, or nearly 800 tons each; and yet the fear is that we shall be short of tonnage to take away our productions for the current year. It will require upwards of 300,000 of sail tonnage to market our home products during the present season, exclusive of what will go by steamer. The total amount of tonnage which will enter and depart from this port during the coming year, will probably exceed 650,000 tons—over one-half of which will be by steam.

GEN. W. S. ROSECRANS (one of our most appreciative subscribers to the MINING AND SCIENTIFIC PRESS) has recently been appointed and confirmed U. S. Minister to Spain. Gen. Rosecrans is a bona fide mine-owner, and has recently spent considerable time on this coast in mine engineering and examinations. Many friends here are pleased to learn of his appointment, but will regret his necessary absence.

Communications.

In this Department we invite the free discussion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[From our Traveling Correspondent.]

Mining Prospects in Northern California.

[Continued from page 34.]

A VALUABLE MINE.

First and foremost of all the mines in this neighborhood, is the Black Bear mine, owned by Messrs. Coukling, Daggett & Rend. This ledge was discovered in August, 1860, by Callahan & Hart, and paid in arastra from $40 to $100 per ton, to the depth of fifteen feet from surfaee. The company began crushing with stamps in October, 1862; the mine changed hands in 1865, and beeame the property of William Coddington, of San Franeisco. He failing to make the mine pay, sold to the present owners in the spring of 1866. This mine apparently comprises two ledges—one running north and south, and the other east and west; the latter cutting through the former something in the shape of the letter X. They vary in width from three to fifteen feet. The pay shute extends an average of 150 feet in either direction from the crossing or intersection, which gives 300 feet on each ledge, or a total of 600 feet of pay chimney. But very little assorting is done, as they usually crush the bulk of the ore taken out, realizing a yield all the way from $12 to $50 per ton. The gold is .835 fine, or worth $17⅞ per ounce. The mine is worked by tunnels, four of which are already started, including the two upper levels which are now worked out. They are now into the hill, on the third level, about 700 feet, and have two year's crushing now in sight. The mill is situated about two miles below the mine, and connected with the same by a fine road of easy grade, requiring only one span of horses to a wagon, which will carry four tons to a load. The mill is driven by water, has twelve stamps, and crushes an average of eighteen tons per day. The process of working is that of the battery, blanket and riffles. They have discarded copper plates, and are saving the bulk of the gold in the riffles, which Mr. Daggett has so ingeniously constructed as to produce a result heretofore unattained in their use throughout the State. That this mine is paying steadily and handsomely, there is no manner of doubt. Messrs. Daggett & Conkling hold the reins of management, and are, by the way, plain, practical miners, possessing a requisite amount of knowledge to constitute them masters of their business.

AT ORLEANS BAR AND VICINITY

there are some very extensive hydraulic claims, many of which are paying largely. At Gold Bluff, there are two heaoh claims—perpetual mines—constantly replenished whenever there is rough weather or heavy surf. The whole ground covers a line of heach about five miles in length. The upper claim is owned by Gen. James Wilson, of San Francisco, and the lower by Messrs. Sandige & Co. Their process of working is the same as at Crescent City; but the land is much richer, varying usually from one cent to ten cents to the shovel; except in a few instances, it has been gathered at the rate of five cents per shovel. These mines are evidently inexhaustible, and will be worth full as much 100 years from now, as to-day.

At Trinidad, Dr. Veatch has secured a range of black sand (old heach) where it is presumed he will accomplish something as soon as he gets fairly under way.

TRINITY COUNTY.

This is emphatically a county rich in placers; nearly every foot of ground passed over by the writer, was almost an unbroken chain of deep beds of washed gravel. Thousands of acres of the same may be seen without a sign of a prospect hole ever having been sunk to test the existence of gold; but generally where a prospect *has* been made, the efforts have been crowned with the happiest results. At Trinity Center, a few companies with limited capital have made a sufficient beginning to prove their ground valuable, and that is all. Their mode of working is on the "one-horse" hydraulic plan, as before mentioned.

At Minersville, there is one claim doing a very fine business. This is owned and worked by G. F. Diener. It is worked in part by hydraulics, but principally by what is termed "gouging"—viz: applying heavy reservoir heads every few hours, letting on five or six thousand inches, carrying away trees, huge boulders, and in fact, everything that may obstruct, exeepting the gold, which, being coarse, lodges in the bed rock flumes. Diener has evidently got a good thing, but he does not mean to nurse it.

At Weaverville, times are comparatively lively; some few claims are doing very well, but the great enterprise in contemplation here is that of the Weaver Creek Milling and Mining Co's project, of putting in an immense flume at a point on the creek, which will tap the whole basin of Weaver diggings. This is an incorporated company, divided into 500 shares, and $25,000 capital, with the privilege of increasing as the enterprise may demand. Messrs. Davidson, Allen & Jenkins, are the officers of the company, as well as exclusive managers of the enterprise. They are all thorough, practical business men, and know what they are about. They have their own money invested, and intend to move slow, but sure. They will build only 1,000 feet of the flume this year; subsequently adding as the working of their ground may demand. The flume is to be sixteen feet wide by ten feet high, with a partition two feet high, placed six feet from one side. This will give three sizes to the flume, to accommodate it to the varying stage of water. This is certainly a very laudable enterprise, and will not only enrich the stockholders, but will help the camp beyond all calculation.

At Junction City and vicinity, mining is quite brisk, according to all accounts. The writer was unable to visit this portion of the county.

Lewiston is doing a little hydraulic mining, enough to support a very good hotel and two stores. Some few claims are paying very well.

SHASTA COUNTY.

This is evidently a quartz county, and well worth the serious attention of quartz men. But little prospecting has been done as yet. All the indications that can be reasonably asked for, above ground, are sufficient to warrant the running of tunnels and sinking of shafts to test the value of numberless leads that can be found nearly all over the county. Gold, silver, cinnabar and copper are found, and in many instances showing ores of the finest character. Only one lead, however, is now being worked successfully, viz: the Washington, at French Gulch. This is an incorporated company of 6,000 shares, E. Lewin, President, John Souter, Treasurer, and John Syme, Mining Superintendent. This is one of the oldest mines in the State, yet it has accomplished nothing to establish any degree of permanency or value until within the last two years, when the management fell into practical hands, and has been made to pay largely up to the present time. Operations were first commenced in 1851, and stopped in 1856; then laid still four years, and started again in 1860, running only ten stamps up to the present summer, when twelve more have been added, making twenty-two stamps in all now in operation. The mine looks well, producing as fine looking ore as Grass Valley can boast of. The lead is large—from three to six feet—is easily worked by tunnel, and sufficiently tested to establish its permanency—being down nearly 300 feet. The mill is driven by water; twelve stamps by "hurdy-gurdy," and ten by "overshot" wheel. The process of saving the gold is that of battery and copper plate. The ore is rich, varying from $20 to $50 per ton. Their last clean up—when visited by the writer—yielded a little over 500 ounces from thirteen days' run.

Near the town of French Gulch, the Churchhill Company, and Hunter & Mosher, are doing very well running their hydraulic claims. They have water only seven months of the year.

At Piety Hill, the Shasta Hydraulic Co., G. F. McPherson, Superintendent, are extensively engaged opening up a large tract of very rich ground. From a run of twenty-eight days, a clean up of 247 ounces was made. This promises well as a starter. They contemplate getting in a ditch as soon as practicable, which will give more pressure as well as more water. Mr. McPherson is certainly well schooled in hydraulic mining, and is applying all the later improvements.

About three miles from this place is quite an extensive district of fine looking silver-bearing quartz, owned principally in the immediate neighborhood, and Shasta City. The ledges are large, varying from four to six feet in width, and assaying from $400 to $600 per ton. This district is really worthy the attention of silver mine operators.

B.

Agricultural and Mineral Lands.

INSTRUCTIONS AS TO MAKING PROOF—THE LATEST LAND OFFICE DECISION.

Department of the Interior, General Land Office, May 16, 1868.

To Registers and Receivers of the United States Land Offices:

Gentlemen—The 10th section of the Mining Act of July 26, 1866, provides for homesteads, made prior to the passage of the act by citizens of the United States, or persons who had declared their intention to become citizens, upon land previously reserved as mineral, and as such excluded from survey and sale, but which are properly agricultural, no valuable mines of gold, silver, cinnibar, or copper, having been discovered thereon, and which have been improved and used by settlers for agricultural purposes. These settlers have a right to preëmption to such land, not exceeding 160 acres, and may buy the same at the minimum of $1.25 per acre, or enter them under the homestead law, after they become surveyed, upon the usual and proper proceedings in such cases. If the deputy surveyor returns it as agricultural, and there is no data to the contrary, and no one files an affidavit of its being more valuable for mineral than for agricultural uses, the settler will be allowed to enter it under the provisions of said 10th section. If an affidavit is filed alleging the land to be mineral, a trial must be had to determine whether it is more valuable for mining purposes than for agricultural. In such cases a day will be fixed for the hearing, giving to the claimant and to the party filing the affidavit sufficient notice to enable them to be present with their witnesses; and when the tract had been occupied for agricultural purposes, and improved as such, before the 26th of July, 1866, the burden of proof will be upon the party seeking to establish its mineral character, and the testimony should be of a nature clearly proving the truth of such allegations, before a decision is rendered against the right of the settler to enter the land.

Should the deputy surveyor return the land as mineral, the settler will be required to furnish satisfactory proof of the error of such return prior to entering the premises claimed under said 10th section.

The return of a deputy surveyor, although entitled to respect as coming from a sworn officer, is not to be taken as conclusive in these cases, when disputed, but the matter must be investigated by the examination of witnesses, capable from experience and observation, and from previous examination, to testify understandingly in reference to the existence of minerals upon any particular tract, and whether the deposit is of sufficient extent to render it more valuable for mining than for agriculture.

When lands of the character contemplated by said 10th section have not yet been filed upon, you should satisfy yourselves as to which class they belong before taking steps looking to their disposal.

The 11th section of the Mining Act authorizes the Secretary of the Interior, after the survey of lands previously reserved as mineral, to designate and set apart such portions of them as are clearly agricultural, which are made subjects to preëmption and disposal as other public lands of the United States.

To give effect to this section, the Surveyors General in the mining States and Territories have been instructed to require their deputies to describe in their field notes, and designate on township plats, such lands as are agricultural. After the filing of the plats in the district land offices, if no counter affidavits are presented, the tracts designated "agricultural lands" may be filed upon under the preëmption, or taken under the homestead laws; but preëmptors will not be permitted to prove up and enter until after such a period of actual settlement and cultivation as shall show good faith—say not less than six months from the date of settlement embraced in the filing of the declaratory statement; and if before the expiration of such time an affidavit is filed alleging the mineral character of the particular tract claimed, a trial must be had before an entry is made, to determine that question.

It is not doubted that in every township there are tracts of land more valuable for farms and gardens than for mining purposes, and the object of the law is to segregate these from the mineral and dispose of them as agricultural.

Errors of judgment may sometimes occur, but as a general rule it is believed a careful examination will enable claimants to act with safety in reference to these lands, and although they may be put to the necessity of proving their chief value to be for purposes of agriculture by an opposing affidavit filed any time before entry, yet where reasonable precaution has been exercised, such proof seldom fails, at least as to the whole tract filed upon, and if a profitable mine were discovered upon a part of the premises, it would only enhance the value of the remaining portion.

Affidavits alleging particular lands to be more valuable as mineral than as arable, must apply to each of the smallest legal subdivisions. Of a quarter section, 120 acres may be mineral, and the remaining 40 arable, and the mineral character of the former is no reason why the latter should not be entered as agricultural. Nor is it sufficient that such affidavits are based upon opinion or belief. They must contain a statement of facts within the knowledge of deponents, derived from actual observation or examination, furnishing a strong presumption that the particular subdivision is mineral land, and more valuable as such than as agricultural. Mere speculation, based upon no positive knowledge, and disclosing no material facts, will not be received, and claimants ought not to be put to the trouble and expense of meeting affidavits of this character. There should be the utmost good faith required from both sides. Lands more valuable for mineral than for other purposes are not to be taken under the preëmption or homestead laws; nor, on the other hand, are parties to be intimidated from making settlements upon, and ultimately entering under these laws, such lands as are most useful for agricultural purposes, simply because valuable lands may lie in the immediate vicinity. Both classes of land are to be disposed of under their appropriate laws, and neither interest is to be subordinated to the other to the detriment of the public welfare.

If the land officers in the various districts have reason to believe that mineral affidavits are being placed on timber lands on which no mineral has been found, for the purpose of keeping the same from settlement until after the timber has been removed, they will inform the parties filing such papers that affidavits in which it is not alleged that either gold, silver, cinnibar, or copper, have been found, are insufficient; and however specific and full such affidavits may be, they are not to be deemed conclusive as to the matters alleged. Any settler filing an affidavit of a contrary character and desiring to enter the particular tract as agricultural land, is entitled to have the question examined, and on proving it to be more valuable as arable than as mineral, may file upon it under the preëmption or enter it under the homestead law, and in due time consummate the title.

It matters not whether the precious metals are found in quartz ledges, or in placer or hydraulic mines, if the particular subdivisions of the public lands containing them are more valuable for mining than for agriculture, they cannot be entered under the preëmption or homestead law. If placers once valuable have become exhausted so as no longer to be valuable as mines, the land may then be entered as arable.

These affidavits are to be filed with the Register and copies transmited to this office. They are to be registered and carefully filed, but need not be recorded.

In reference to the fees authorized in preëmption and homestead cases, and in proving up the same, you are referred to the legal provisions and instructions given in the circular from this office, dated September 17, 1867.

When necessary, all witnesses must be carefully cross-examined in order to elicit the truth, and the testimony, with the papers in each case, together with the joint opinion of the district land officers, will be transmitted to this office for examination and review. Respectfully, Jos. S. Wilson, Com'r.

The Railroad Fleet.—There are now fourteen ships on their way to this port laden with railroad iron, with some four or five others ready to follow; to say nothing of the fact that nearly all the regular lines bring more or less of this article. And yet, so rapidly is the iron being put down on the various roads in progress throughout this coast, that the Pacific Railroad Company is now transporting rails across the Isthmus at an enormous extra expense.

Mining in Mexico.—It is worthy of notice that many of the prominent and wealthy men of Mexico have recently turned their attention to mining, and with a degree of success that is considered especially encouraging.

Mechanical.

Bearings for Shafts.

The usual pressure allowed on metallic bearings for shafts, varies from 50 to 200 pounds per square inch. The best results, so far as friction is concerned, is found to be about 90 pounds per inch on bearings, well oiled. A few years since, a discussion in the English Board of Engineers developed some interesting facts with regard to the value of wood for bearings. It was stated in that discussion that an experiment had been made wherein the extraordinary pressure of 8,000 pounds per square inch was placed upon a wood bearing, with a speed on the rubbing surfaces of 260 feet per minute. This motion was kept up continuously for three hours, without producing the least sensible abrasion. In these experiments no oil was used; but the bearings were kept well covered with water.

It appears that wood bearings do much better with water for a lubricating medium than with oil. Trials of wood with oil lubrication, prove that it is about equal in value, for that purpose, with brass. Although the absolute quantity of heat generated is greater with brass than with wood, in the proportion of 31 to 20; still the non-conductive nature of the latter renders even the lower amount of heat generated by its use with oil, more detrimental than the larger amount in the use of brass, by reason of the liability of the wood to char. Wood bearings, where any considerable speed is combined with much pressure, are inexpedient, except when kept well covered with water. Water is better than oil, from the fact that it is a better conductor of heat. A small stream of water trickling upon a journal will convey away therefrom a large amount of heat.

A force of a hundred pounds applied to a weight, on easily moving wheels, on a hard road, will move about twenty-five times itself—that is, 2,500 pounds. If on a plank or a good McAdam road, it would move about sixty times as much, or three tons, and on the best railway track, two hundred and eighty times, or about fourteen tons. A force of three hundred pounds applied to a sled with cast-iron shoes will move half a ton on a sanded plank road; but that is too much for a horse. A two-horse mower will require a draught varying from three hundred and fifty to four hundred and fifty pounds.

The lightest draught required to plow a sod of stiff clay, which has remained long unplowed, to a depth of seven inches, will be about three hundred and eighty pounds, and the heaviest about five hundred and sixty, the average about four hundred and seventy pounds.

For the Prevention of Boiler Explosions.—The Pennsylvania Railroad Company have recently been experimenting at Alateona, Pa., with steam boilers, for the purpose of ascertaining the causes of their explosion. In view of the great importance and expense of making such a series of experiments full and practical, it has been suggested that the General Government should offer reasonable inducements for the solution of this question, and the discovery of preventive measures.

Iron.—A famous British minister, Mr. Horner, once said that iron was the machinery of civilized society, and Locke declared that if the use of iron were lost among mankind, they would unavoidably return to the savage state. At the same time he styled the person who first made use of iron, "father of arts and author of plenty;" for of iron all tools are made, and with the tools thus made man tills the earth, builds houses, makes clothes, constructs steam engines, builds railroads, constructs steamboats—in fine, does all the business of civilized life.

How to Lay Sawed Shingles.

Much more depends on the manner in which sawed shingles are laid, than on the laying of shaved shingles. A sawed shingle will last twice as long when properly laid than when improperly placed upon the roof. Quite too little attention is paid to this matter. Many people—many, even, who call themselves carpenters—are not aware of the importance of this matter. To lay any description of shingles well and rapidly requires considerable practice. To lay sawed shingles and make the best work that can be made with them, requires still more experience, or at least a more careful eye.

Nearly all sawed shingles have a rough side, and a smooth one, *i. e.*, they are sawn from the butt somewhat across the grain of the wood; the grains lapping one over the other on the sides of the shingles should be laid so that the water will run over and not into them as it flows from the roof; in other words lay them "right side up with care." If perfectly dry, they should be laid about one-eighth of an inch apart, to give them room to swell in wet weather; they should have but one nail in each shingle. Here is where most persons fail. In nailing, it is often said that we cannot nail shingles *too well*. That's so, but there is danger of nailing sawed shingles *too much*. Where they are nailed down too close they retain moisture, and consequently rot sooner than they would if one nail only were used in each shingle, which gives them a chance to curl up a little, and admit the air to circulate on the under side.

The most practical and experienced builders prefer the above method of laying loosely, all kinds of sawed shingles. To make the most durable roof with such materials, it should first be covered with narrow boards, put about three inches apart, across the rafters, and then lay the shingles on them as described. It will also be found of great advantage to immerse them, previous to being laid, in lime water; or the shingles should be covered with some other antiseptic wash or paint.

Scythes.—A complaint is often made by workmen of their scythes not acting well, or of the edge not cutting uniformly, and the form being wrong, etc.; now the form best suited to each mower, says one who has tried it, may be tested by a very simple experiment. Let a man with a piece of chalk in his hand, walk up to a high wall, or barn door, and raising it as high as he can, strike a curve from right to left; the line so traced is the exact form that his scythe should be; and if he applies the edge of it, and find it to correspond, it will cut uniformly from point to heel, and save himself much trouble and labor.

Durability of Buried Iron Pipes.—A cast iron water pipe laid by the Old Manhattan Water Company, at the corner of John and William streets, New York, supposed to be more than forty years ago, was recently taken up and showed no corrosion whatever. It was gray iron, which confirms Mr. McAlpine's opinion as to the value of this variety for pipes. Mr. James B. Francis lately took up some cast iron water-pipes at Lowell, Mass., which were laid in 1828. With regard to the condition of the metal, he says: "39 years' use appears to have made but little impression upon it."

Artificial Marble.—Machinery has been put in operation in St. Louis, by which white artificial marble is being manufactured, which is said to be equal in durability and texture to what would be called an excellent article of quarried marble. The process requires only a few hours to complete it, and the material can be furnished, molded in a desirable form, and much cheaper than it can be cut from the quarry, even in the plainest finished style.

In railway carriages, drawn by any power external to the carriage and acting upon its body above the centers of the axles, the weight upon the forward wheels of the carriage must be greater when it is in motion than when it is at rest. The forward axle becomes a fulcrum upon which the action of the drawing power tends to lift a part of the weight otherwise supported by the hind wheels.

There were 30,000 stoves made at Cleveland last year, valued at $800,000, for which 8,000 tons of pig metal were used and 3,700 tons of coal and coke. One shop turned out 10,262 lineal feet of iron bridges, valued at $250,000.

Scientific Miscellany.

Carbon in Iron.—It is well known that there are two states in which carbon exists in solid iron: a state of chemical combination with the iron, and a state of merely mechanical diffusion through its mass. It is also known that the carbon existing in iron in the last-mentioned state is always in the form of graphite. Dr. Phipson has recently announced to the Academy of Sciences that he has discovered that silicium also may exist in cast iron either in a state of combination, or in a state of diffusion merely, and that, like carbon, when merely diffused through the iron, and not in combination therewith, it is always in the graphite form. He adds, what, if true, is of great practical importance, that upon the condition of the silicium in any given sample of cast iron depends, in a very great degree, the practicability of converting that iron into steel by the Bessemer process. He regards diffused or uncombined silicium as the least injurious, stating that while iron containing as much as three or four per cent. of *free* silicium can be converted into excellent steel by the Bessemer method, the presence of a very much smaller quantity of *combined* silicium will either render the iron containing it incapable of being converted into steel by that method at all, or will cause the steel produced from such iron to be so hard and bad as to be quite incapable of being worked. He promises to publish shortly a full account of his method of determining the condition in which silicium exists in iron, with details of his experiments upon the influence of that condition upon the results of the iron by the process referred to.

Refraction.—The determination of the refractive power of a body is often a valuable guide in estimating its chemical purity. The adulteration of essential oils may thus often be detected with ease, where it would otherwise be difficult to ascertain it. The results obtained by Dr. Wollaston, with an instrument invented by him for exhibiting this quality, gave the following:

Oil of Sassafras	1.536	Oil of Turpentine	1.475
Oil of Cloves	1.535	Rectified Turpentine	1.470
Canada Balsam	1.52	Oil of Almonds	1.470
Copaiba Balsam	1.507	Oil of Olives	1.469
Oil of Amber	1.505	Oil of Peppermint	1.468
Oil of Nutmeg	1.497	Oil of Lavender	1.467
Oil of Linseed	1.485	Melted Spermaceti	1.446
Oil of Lemons	1.476	Sulphuric Acid	1.435

Dr. Wollaston states that genuine oil of cloves possesses a refractive power of 1.535, but that some of inferior quality, which had probably been adulterated, had a refractive power of only 1.498.

Antiquity of the Vine.—Recent discoveries of fossil vines and grapes, along the banks of the Rhine, completely contradict the almost universal belief, which has heretofore attained, that the vine was introduced into Europe from Asia; and also carry the existence of the same far back into the early periods of geological history. Vine leaves, impressed upon coal and shales, have been found in the mines of Hesse-Darmstadt. Fossil grapes, have also been found there, nearly or quite identical with the wild varieties which are now growing upon the banks of that stream.

Extinct Animals of this Continent.—Prof. Leidz, of Philadelphia, has in course of publication a work of great interest, on the extinct animals of this continent. Among these are reckoned several which are now confined to Asia and Africa, such as the camel, the rhinoceros, the elephant and mastodon. The existence of these animals on the Western Continent is inferred from the fossil bones, particularly the teeth, of these animals, which are found in considerable quantities at the West. And the conclusion to which these fossils bring the savans, is, that this is really the *old* world, and the Eastern Continent is in fact the *new* world.

Truths of Science.—Nothing astonishes the earnest worker in science so much as to find the truth of nature was, in reality, like what in his ignorance he fancied it, or was anything less than wonderful.

A Fragrant Substance from Resin.—Mr. W. Skey has published the following: Common resin, lac or Kauri gum, in a state of powder, is gently heated with dilute nitric acid for a few hours; the mixture, or solution, as the case may be, is then evaporated to dryness, or nearly so, and treated with an excess of a strong solution of common soda, caustic potash, and lime in water; the resulting liquid is then transferred to a retort and distilled. At first the distillate has an odor of garlic, but this gradually gives way to an odor decidedly fragrant. On redistilling the portion last drawn over from concentrated sulphuric acid, a strong aqueous solution of this odorous substance is obtained; the solution itself has a warm aromatic flavor, and the odor assimilates to that of peppermint mixed with lavender. Bichromate of potash with sulphuric acid, also, may be used for the oxidation resin employed.

There is a species of fir tree in the Sierra Nevada, the gum from which, when distilled for turpentine, yields a highly fragrant substance, having a balsamic odor something like lemon peel. It possesses all the usual properties of turpentine except the odor. Considerable quantities were sold in this city, some three or four years ago, put up in small bottles, to be used for cleansing silks, woolens, etc. It was much preferred for that purpose to benzine or ordinary spirits of turpentine, on account of its pleasant fragrance. In fact it had some considerable merit for perfumery. Most likely the gum or resin of this tree, if treated after the above formula, would yield a much more valuable product than the simple distillate formerly prepared. We would commend the above suggestion to Mr. Fairbanks, of the Butte Turpentine Mills, who first discovered the peculiar gum to which we have alluded.

Oil Upon Water.—The following facts are important and interesting in connection with the article which we gave last week, in reference to pouring oil upon the water, at sea, to keep down the waves, and thereby remove the danger of shipwrecks:

"Drop a small quantity of oil into water agitated by the wind; it will immediately spread itself with surprising swiftness upon the surface, and the oil, though scarcely more than a teaspoonful, will produce an instant calm over a space several yards square. It should be done on the windward side of the pond or river, and you will observe it extend to the size of nearly half an acre, making it appear as smooth as a looking-glass. One remarkable circumstance in this experiment is the sudden, wide, and forcible spreading of a drop of oil on the surface of the water; for if a drop of oil be put upon a highly-polished marble table, or a looking-glass, laid horizontally, the drop remains in its place, spreading but very little; but when dropped on water, it spreads instantly many feet round, becoming so thin as to produce the prismatic colors for a considerable space, and beyond them, so much thinner as to be invisible, except in its effects in smoothing the waves at a much greater distance. It seems as if a repulsion of its particles took place as soon as it touched the water, and so strong as to act on other bodies swimming on the surface, as straw, leaves, chips, etc., forcing them to recede every way from the drop, as from a center, leaving a large, clear space."

Oxidation of Amylic Alcohol.—The following statement is made by A. Claus: Amylic alcohol, nitric acid having a specific gravity of 1.5, and water, were placed in a cylinder without being mixed. After the lapse of four months the smell of alcohol disappeared, that of amylic valerianate being substituted. The fluid was then diluted with water, and one-half of it distilled; the distilate was found to consist chiefly of ether. The residue, on further concentration, gave off nitric acid vapor, and, on cooling, crystals of oxalic acid were separated.

M. Blondlot asserts that when phosphorus produces ozone by its slow combustion in presence of water, phosphoric acid is produced, which, in contact with excess of phosphorus, is partly transformed into phosphorus acid.

A New Pigment.—Prof. Church has extracted from the brilliant red feathers of the bird known as the "plantain-eater," a new animal pigment, which he calls "turacine."

Silk—Now is the Time!

It appears that the silk-worm disease is spreading throughout Europe. The crop in France will this year be still inferior to that of last. Not only are the native eggs infected, but those of foreign production show signs of the disease. So writes a French silk-grower of experience to Mr. Louis Prevost, of San José, in this State. Mr. Prevost, whose name has been prominently before the public in connection with the silk-culture in California, and who takes a just pride in being known as the prime mover in the enterprise, has sent us a printed slip containing not only a translation of the letter above referred to, but also two of his own letters, recently published in the San José *Mercury*. He sets forth the case, and urges the silk-growers of this State to embrace the golden opportunity thus offered them; and establish upon a firm foundation a reputation,—thus far not doubted,—for raising perfectly healthy eggs. This done, a mine of untold wealth is open to them; for there is scarcely a limit to the sale; they may supply the world.

In order to do this, it is only necessary,—says Mr. Prevost,—to observe proper precautions in the management of the worms. The chief causes of the disease have been, *bad feeding*, and *crowding*. The worms which are the product of five or six ounces of eggs have been raised in a room which is perhaps only large enough for those from *one* ounce. Proper regard has not been paid to the *temperature* of the rooms devoted to the purpose; nor to the importance of a constant supply of fresh air. The worms, too, have been in some cases *fed with wet leaves*. This is wrong; the leaves should be gathered after the dew is off, and should be fed to the worms while fresh,—not faded, for then they become tough. Many other points must be carefully observed. Mr. Prevost refers to his *California Silk-Grower's Manual* for more full particulars; and quotes, in one of the above-mentioned letters, especially from page 228 of that book. We do not re-produce the quotation, for all our silk-growers are supposed to have the manual; but we give herewith, from the letter aforesaid, the items of instruction in regard to space, frequency of feeding, and temperature:

"For half an ounce of eggs,—which will produce twenty thousand worms,—the space required, in square feet, is, for the 1st age, 10 feet; 2d age, 20 feet; 3d age, 40 feet; 4th age, 90 feet; 5th age, 200 feet. The worms should be fed as follows: 1st age, from 12 to 15 times in 24 hours; 2d age, 10 to 12 times; 3d, 8 to 12 times; 4th, 8 to 10; 5th, about 8 times, but plentifully then. For the hatching of the eggs, begin with a temperature of 62° F., increasing during eight days to 82°; and come down gradually during five days from 82° to 72° or 74°, and keep them at that during the balance of the time."

Mr. Prevost alludes to the propriety of adopting a uniform plan for preparing the eggs for exportation, as is done elsewhere, and remarks that he has found card-boards of a good size and quality, thirteen inches long and nine and a half inches wide, costing only one cent apiece, which he thinks are the best that can be selected for the purpose. Those who desire it, will be supplied by him upon receipt of their orders, with the money.

Mr. P. repeats, with emphasis, that there is no fear of glutting the market with good healthy eggs. He has orders from France and Italy, to buy. He adds that some of the best French and Italian silk-growers are about coming to California, for the express purpose of establishing themselves in the business.

Not all Gold.—The domestic exports from this port, aside from precious metals, for the year ending June 30th, 1868, reached a total value of $16,400,458. Our exports of bullion and coin was $40,727,992. Our merchandise shipments consisted of some fifty different articles, mostly the products of the soil.

Mineral Resources of the Pacific Slope.—The increasing interest manifested in acquiring general information with regard to the mineral and other resources of the Pacific Slope, is most strikingly shown in the demand for publications containing that class of information. Within the past year, there have already been placed before the public a revised edition of Hittell's "Resources of California," Cronise's "Natural Wealth of California," J. R. Browne's Second Report, on the "Mineral Resources of the States and Territories West of the Rocky Mountains," and now we have announced, from the publishing house of H. H. Bancroft & Co., of this city, a reprint of the latter work, to which much additional cognate matter will be added; the whole forming an octavo volume of 900 pages, to be accompanied by a steel portrait of the author, by Halpine. The new matter which will be added to Bancroft's reprint of Brown'e report, will be as follows:

I. A complete history of the discovery of Lower California, and its settlement by the Jesuits; also, a Historical Sketch of the acquisition of Upper California by the United States, its progress and settlement up to the present time; by Dr. Alex. S. Taylor, of Santa Barbara.

II. An original translation of Clavijero on Lower California and the adjacent Mexican Territories; by A. Randall.

III. Exploring expeditions through Lower California, in 1867, by J. Ross Browne, Wm. M. Gabb, T. M. Löhe, and others.

IV. Land expedition of J. D. Hanks from Magdalen Bay to San Diego.

V. Topographical surveys and explorations of the Coast of Lower California; its Bays, Shores, Islands, Harbors and Inlets; by Capt. C. M. Scammon.

VI. Historical Sketch of the Settlement of Nevada, from the discovery by Col. Fremont, including the Mormon Settlements, notices of the Aboriginal Tribes, Political Events, etc., by Dr. H. De Groot.

VII. Historical Memoirs of Oregon and Washington Territory; by Elwood Evans.

An Improved Anchor.—Mr. Frederick Wittram, a lawyer of this city, has invented a new anchor for vessels, for which letters patent have been granted by the United States, and application has been made through the Mining and Scientific Press Patent Agency, for patents from European countries.

This anchor is simply a square bar of iron, having longitudinal openings made through it, one at each end, one passing through the bar at right angles to the other, in which the arms or flukes are placed, and pivoted at one end so that they will swing entirely through the bar from side to side and up and down, always keeping the two flukes ready to take ground. The bar is provided with rings at each end, to one of which the cable or chain is attached when the anchor is let go, and the other serves to cat the anchor when not in use, by attaching a cable to it and swinging it from the cathead, allowing the arms or flukes to hang within the body of the anchor or bar out of the way. This anchor can never foul, as there are no projections or obstructions to be met by the cable while swinging around with the tide, or by other means, while the operation of tripping it to cause it to take hold is perfect, as, when it falls, one or the other of the flukes on the side will cause the bar or body to turn sufficient to drop the other fluke from the opening on the opposite side, when they both take hold of the bottom and form a perfectly staunch anchor, capable of holding an immense weight.

The commercial public have lately been treated to several improvements on anchors, but this last appears to be an important addition to ships' safety apparatus. Several tests have proven it to be a success.

College of California.—The College of California opens its Fall term, on Thursday, July 30th. Instructions in the full course will be given as heretofore. New advantages will be provided in some of the departments. Those who wish to join any of the classes, may be examined on Wednesday, July 29th. An optional course will be provided for those who wish to study the natural sciences, mathematics, the modern languages and English language. Professor Rising will continue to give special attention to classes in analytical chemistry and assaying.

New Patents Issued to Pacific Coast Inventors.

Specially reported by the U. S. Patent Office, Washington, D. C., to Dewey & Co., American and Foreign Patent Solicitors, and Publishers of the Mining and Scientific Press.

Issued for the Week ending July 7, 1868.

79,581.—Improved Quartz Mill.—Alpheus Lewis, Virginia City, Montana:

I claim the train of gear wheels E, E, E, in combination with the series of stamps D, D, D, whose stems C, C, C, pass up through the eyes of the gear wheels E, and derive a constant rotation therefrom, substantially as and for the purposes set forth.

79,639.—Improvement in Gang Plow.—Gustavus A. Davison, San Leandro, Cal.:

1. I claim regulating the level of the machine by the device O, O', and set screw P, or their equivalents, substantially as set forth.

2. The rigid arms H, H', and G, attached to the axle and connecting the level or sweep J, either directly to the arm G, or by the link I, substantially as and for the purpose specified.

(The object of this invention is to provide an improved gang-plow.) It consists in a device for raising and lowering the frame, whereby the plows are made, to cut shallow or deep, or whereby they may be elevated entirely above the ground, when traveling from field to field. The invention comprises a jointed axle, regulated by a set-screw, so that one of the wheels of the machine may be adjusted to travel or rotate on the same plane with the other or land wheel. By this device for constructing and operating gang-plows, a great advantage and an important addition to the leverage power is obtained, by the driver, in operating the sweep for raising the plows entirely out of the ground, or regulating the depth in plowing.

79,666.—Improvement in Marking Cans.—Frank W. Marvin, Sacramento, Cal.:

1. I claim in combination with a marking can, the reservoir C, substantially as and for the purpose set forth.

2. The valve D, and tubular handle G, in combination with a marking can or pot, arranged substantially as and for the purposes described.

79,689.—Improved Cup for Effervescing Drinks.—A. Rottanzie, San Francisco, Cal.:

I claim in combination with the partition B, the stops or gates a, b, c, or equivalent device, and the lid or cover E, substantially as and for the purpose described.

The nature of this invention is to provide a cup to be used for effervescing drinks, such as result when seidlitz-powders are used, and the object thereof is to so arrange the cup that the two powders may be contained in two separate compartments of the same vessel, and from which they may be poured simultaneously into a spout, where they may meet and effervesconce take place. The liquid may also, by this device, be drawn from the mouth-piece, thus preventing the gas from escaping, and regulating the amount of the solution desired to be taken; as when sufficient has been taken, the remainder may be allowed to remain in their respective compartments, to be used at another time. The device also secures a far more thorough mixing and incorporating of the fluids when they have met in the spout, and consists of a series of stops or gates placed in the neck of the spout in any suitable position for arresting the flow of the mixture. The spout is furnished with a mouth-piece, from which the mixture may be drank, and a lid or cover may be so hinged to the cup as to fall down and cover the spout and a portion of the cup, so as to prevent the mixture from overflowing from too great effervescence. The cup may also be provided with a handle to render it convenient, and, when made of glass, it may be so marked with lines as to indicate the proper amount of water to be placed in each compartment, so that the two solutions shall be exhausted at the same time, while the flow and amount of gas may be regulated as desired.

79,763.—Improved Firemans' Extension Ladder.—Robert H. Jones, San Francisco, Cal.:

1. I claim the combination, in a fireman's extension-ladder of the sliding frames A, A^1, A_2, with the sliding telescope tube I, I^1, I^2, substantially as above described.

2. In combination with the extension-tube I, I^1, I^2, the reservoir J, provided with several supply pipes M, M, M, substantially as and for the purposes specified.

3. The rotating platform N, when used in connection with a fireman's extension ladder, substantially as and for the purposes described.

4. The sliding-bridge V, operated by the wheels T, Y, when used in combination with a revolving platform N, substantially as and for the purpose specified.

5. The combination of the carriage C, with the screws Z, Z, by which it is adjusted to a level when standing upon inclined ground, substantially in the manner described.

79,793.—Improvement in Spurs.—Samuel Wehrly, San Francisco, Cal.:

I claim the graduated holes b, b, b, or their equivalents in the sides of the band A, and the pin c, near the end of the spring E, for adjusting the spur to the heel, substantially as described.

New Incorporations.—Articles of incorporation have been recently filed in the County Clerk's office in this city as follows:

Metropolitan Boot and Shoemakers' Union.—Capital stock, $50,000; 500 shares, $100 each. Trustees: Robert Cobb, Fred. Fillimore, Peter Sheridan, Wm. Sullivan and Volney Howard.

Keystone Homestead Association.—Capital stock, $30,600; 51 shares, $600 each. Trustees: Henry C. Swain, Chas. W. Thomas and Wm. Corbett.

Land Investment Co.—Capital stock, $120,000; 400 shares, $300 each. Trustees: Wm. R. Wheaton, H. L. Davis, A. D. Grimwood, S. P. Middleton, J. S. Paxton, F. B. Wilde, H. F. Williams, John Archibald and James L. Blaikie.

The Hibernia Savings and Land Association filed its certificate to disincorporate.

The following articles of incorporation have been filed in the office of the Secretary of State during the past week:

Wisconsin M. Co.—Nevada Co. Capital stock, $320,000; 2,200 shares, $100 each. Trustees: John C. Coleman, Robt. Smith, Thos. Findley, H. Hoffman and William Launder.

Election of Officers.—Yellow Jacket M. Co.—July 20th. Trustees, Wm. Sharon, John B. Winters, Thos. G. Taylor and Chas. Bonner.

Gold Hill T. G. & S. M. Co.—July 18th. Trustees, O. Gori, P. J. Venard, F. O. Wegener, C. Martin, H. Huguet, H. Matz and R. Wegener; President, Camilo Martin; Secretary and Treasurer, R. Wegener; Superintendent, H. Huguet.

Wanted—At this office, the postoffice address of Enraght Massey, late of Gold Hill, Nevada.

Notice.—Persons interested in locating Mineral Lands in California or Nevada, will do well to observe the advertisement of N. Wescoatt, S. & M. E., in another column.

TO THE PUBLIC.

Hear what Bussey has got to say in defence of his Lock:

Whereas, Certain parties in San Francisco and elsewhere, are conniving to destroy the reputation of the Bussey Lock, in order to establish other Locks in which they are interested; and

Whereas, It is asserted that a certain individual now in this city will put up $5,000 against the same amount, that he can pick the Bussey Lock in eight hours' time; but makes Bussey this generous proposition: That he does not wish to injure him in any way, and if he will pay a certain amount of money the Lock will not be exposed. Wants Money, is in the market at the highest bidder!

Now Bussey wishes it distinctly understood that he pays no man to keep quiet. Bussey's Improved Combination Lock will be on exhibition at the Mechanics' Fair, in competition with other Locks for the First Premium, and a challenge will be given then and there, to the world in general, and H. S. Folger in particular. The security of the Lock will be endorsed, in any amount, from $500 to $50,000. The man presuming to pick it will be required to endorse his skill in a corresponding amount.

3v17-4w

As if by magic comes repose,
Forget thy pain, forget thy woes.

This harmless Remedy stops all pain instantly, and leaves no stain. The tongue cannot mention any physical pain that this Paint will not remove in five minutes. Whether a frightful Burn, a griping Colic, or a simple Mosquito bite, the result proves an entire relief from distress at any spot or place where applied. It is perfectly adapted not only for all pain, but also permanently cures the worst Ulcers, Piles, Cancers, or breaking out on any part of the body, and all internal complaints, by an outward application to the parts affected.

MOORE'S PAIN ANNIHILATOR, a standard remedy for Catarrh, Cold in the Head, Inflamed Eyes, etc., sold by all druggists.

G. H. MOORE, Inventor and Sole Proprietor, 652 Market street, San Francisco, Cal. 21v16-3m

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Save Your Teeth.—Drs. Jessup & Beers, over Tucker's jewelry store, are now making a specialty of filling the fangs of dead Teeth, and building up broken crowns with *pure gold*—thus restoring them to their original usefulness and beauty. They are also using Nitrous Oxide for the painless extraction of Teeth, when so desired—the only absolutely safe anæsthetic ever discovered. In breathing it, it acts as a gentle stimulant, without undue excitement,—the sensation produced being truly delightful, the effect upon the lungs healthful, and in its results positively free from all danger. Prepared and administered daily at the Dental Rooms of Messrs. JESSUP & BEERS, corner Montgomery and Sutter streets, San Francisco. 16v16tf

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board

San Francisco, July 23, 1868.

City Stocks.

Little attention is at present given to miscellaneous securities through the operations of the Board. The market seems to be yet too limited for large Board transactions of this character, and so long as mining stocks retain their present prominent position as means of investment, upon which larger and speedier profits can be realized, the dealings will necessarily be greatly restricted. During the week sales of California Steam Nav. Co. were made at 70 per cent.; Spring Valley at $60 @66 50; San Francisco Gas stock at $77@70 50. The Hibernia Savings and Loan Society pays a semi-annual dividend of 10 per cent. per annum out of the earnings for the first six months of the present year.

We herewith present our usual semi-annual reports of the Savings and Loan Societies of this city in the same tabular form as originally published by us for the past two and a half years, with the aggregates of the several terms over which our report extends appended. It is gratifying to note the increased thriftiness of our population. It will be observed that the deposits have trebled within the past two and a half years, rising from $7,000,000 to nearly $20,000,000. We can safely estimate the funds in the possession of similar institutions in the interior—at Stockton, San José and Sacramento—at $1,500,000, giving a total of $22,200,000 to the credit of the eleven California Savings Banks now in existence. The deposits now held by the San Francisco savings institutions, apportioned to the number of depositors, would give to each the sum of $755.

NAME.	Date of Organization.	Open Deposit Accounts, June 30.	Deposits.	Loans.	Gross Earnings.	Reserve Fund.	Expenses and Tax.	Gross Profits.
Hibernia Savings and Loan Society	April 7, 1859	12,160	$9,630,089 29	$9,425,560 94	$111,001 97	$309,148 05	$34,597 77	$247,247 43
Savings and Loan Society	July 23, 1857	4,413	4,309,472 61	4,253,653 98	218,296 46	120,532 64	17,643 20	200,653 26
French Savings and Loan Society	Feb. 1, 1860	3,500	3,097,341 24	3,182,114 24	171,499 84	60,224 84	13,902 00	157,597 84
San Francisco Savings Union	June 18, 1862	3,032	2,159,609 21	2,128,757 70	128,743 74	37,180 03	17,698 01	108,045 73
Cal. Building, Loan and Savings Society	Oct. 13, 1866	541	303,228 32	293,316 21	13,027 20	1,317 10	2,261 00	9,766 20
Old Fellows' Savings Bank	May, 1861	1,766	833,540 42	787,228 44	.....	.....	.....	.....
Farmers' and Mechanics' Savings Bank	July 1, 1867	231	126,065 36	101,936 75	9,726 56	.....	.....	.....
German Savings and Loan Society	Feb. 10, 1868	382	158,357 41	155,719 75	3,360 00	13,895 35	1,432 97	10,752 80
Totals—July, 1868		26,025	$19,678,304 07	$19,330,080 07	$655,655 77	$302,987 88	$91,914 53	$1,021,060 75
Totals—January, 1868			16,833,499 89	16,838,440 64	843,917 40	435,700 07	63,530 77	924,351 68
Totals—July, 1867			13,218,620 22	13,218,620 22	604,310 89	470,079 46	64,931 69	1,100,309 17
Totals—January, 1867			10,358,688 40	10,199,914 18	564,498 83	328,018 92	46,716 83	802,760 11
Totals—July, 1866			8,760,164 82	8,827,110 05	493,190 54	232,918 84	.....	530,989 27
Totals—January, 1866			7,005,061 63	6,754,302 53	306,060 80	226,925 53	.....	574,603 10

The receipts of the local insurance companies during the month of June and previously this year, according to the returns made to the Internal Revenue Department, have been as follows:

	June.	Previously this year.	Total.
Pacific	$54,537	$314,020	$368,557
Union	26,508	171,706	198,214
National	.....	201 253	201,253
Fireman's Fund	16,551	96,734	113,285
Builders'	24,375	96,701	121,076
California	19,228	56,842	76,070
Merchants' Mutual Marine	18,446	79,281	97,727
Occidental	10,464	30,131	40,595
Home Mutual	14,080	46,093	60,173
San Francisco	3,568	22,408	25,976
Peoples'	6,617	31,817	38,434
Totals	$194,974	$1,146,984	$1,341,958
Same time in 1867	176,965	877,292	1,054,257
Increase in 1868	$18,009	$269,692	$287,701

The returns were made upon a legal tender basis, the rate—72 cents for January, 71 cents for February, 72 cents for March, April, May and June—being fixed every month by the Assessor of the district.

The National and San Francisco have disincorporated and their outstanding risks have been transferred to the London and Liverpool and Globe Insurance Company.

The above statement shows a decrease of $38,009 as against the receipts in May. The receipts of the several companies in June, as compared with May, show the following difference:

	Increase.	Decrease.
Pacific	.....	$6,074
Union	.....	4,885
Fireman's Fund	.....	2,017
Builders'	828	.....
California	10,568	.....
Merchants' Mutual Marine	7,826	.....
Occidental	3,664	.....
Home Mutual	1,361	.....
San Francisco	43	.....
People's	60	.....

The receipts of the city railroads for the month of June and previously this year, have been as follows:

	June.	Previously this year.	Total.
Omnibus	$26,854	$120,065	$146,919
North Beach & Mission	23,625	105,915	129,540
Central	14,536	66,256	80,792
Front Street, Mission & Ocean	8,678	39,756	48,434
Market Street	10,473	39,021	49,494
Potrero and Bay View	2,786	7,780	10,566
Totals	$86,952	$378,823	$465,735
Same time in 1867	70,592	305,223	375,815
Increase in 1868	$16,360	$73,600	$89,960

Showing an aggregate increase of $751 in June over the receipts of May. The receipts of June as against May show the following difference:

	Increase.	Decrease.
Omnibus	$126	.....
North Beach and Mission	439	.....
Central	.....	508
Front Street, Mission and Ocean	.....	344
Market Street	93	.....
Potrero and Bay View	946	.....

The receipts of the San Francisco and San José Railroad were $51,423 in June against $59,823 in May; San Francisco and Oakland Railroad $16,832 50 against $23,227 in May. The receipts of the San Francisco and Alameda Railroad for June amounted to $11,525 53.

Mining Share Market.

The mining share market, since our last similar reference, has been somewhat irregular up to the 22d inst., since which time a general improvement has taken place, and transactions in the Board have been considerably augmented. The following is our resumé of information regarding the various claims:

Savage—Increased in activity toward the close of the week, declining from $139 to $128 50, improving again to $139, and at the close realizing $138. During the week ending July 18th, 1,480 tons of ore were extracted, showing an average assay yield of $39 47; previous week, 1,351 tons, valued at $41 31 per ton. The product during the week under review came from the following points: Third station, north mine, 181; fourth station, north, 90; fourth station, south, 1,024; fifth station, north, 21; and fifth station, south, 164 tons. They are now cross-cutting in the south mine, on the fifth station, and the developments are reported to be looking well. The Hale & Norcross line, it is said, has been reached, and there is some talk of the drift being carried forward by the latter company from the Savage ground. The bullion receipts to date for July account aggregate $148,500, being about $50,000 less than same time last month.

Yellow Jacket—sold to a larger extent and at extremely fluctuating rates, dropping from $1,230 to $1,030, rising quite rapidly to $1,280, and at the close selling at $1,175. We clip the following from the *Trespass:* Sinking and drifting are going on with the usual energy. The 700 level is now looking well, and station timbers were being put in for the 800 level on the 13th inst. In connection with the Kentuck and Crown Point, a waste dump is being constructed, with a railroad leading therefrom to an unoccupied ravine, half a mile away, for the conveyance of the waste, which would soon have been a serious drawback to active operations with the three mines.

Hale & Norcross—has been unusually active during the period under review, over 6,000 shares having changed hands in the Board, dropping from $72 to $54, advancing to $82, and at the close selling at $76. Work to ventilate the lower levels is now vigorously prosecuted. So little can at present be reported about this mine, that it is thought interested parties are urgent in their endeavors to depress the stock; as for ourselves, we never experienced any difficulty in obtaining information from the office whenever desired. Outsiders have it that they intend to carry forward the drift from the Savage claim on the fifth station, etc., and, in fact, "outsiders" seem to know more than "insiders." An assessment of $10 per share, or $200 per foot, was levied on the 22d inst.

Kentuck—declined from $387 50 to $360, rose to $380, and closed at $375. The receipts of bullion to date for July, show a yield of $52,986 66. The shaft is upwards of 630 feet in depth, and when 700 feet are attained they will drift for the ledge....Imperial receded from $123 to $100, improved to $110, and closed at $108. No change from our previous report. Receipts of bullion to date for July account, $23,405 37.

Crown Point—was in good request, declining from $94 to $82, advancing to $88, and at the close selling at $88 50. The stopes between the 700 and 800 levels are yielding their usual quantity and quality of ore. The satisfactory manner in which the breasts are holding out on this lowest working level, says the Superintendent, gives assurance that the 900 level will prove at least as good, if not better, than any level we have worked. On the 24th the drift from the 900 level was in 74 feet, running in hard rock. The bullion receipts to date for July foot up $37,842 92.

Chollar Potosi—fell from $185 to $125, rose to $165, and closed at $145. For the week ending July 17th, extracted 1,060 tons of ore against 820 tons the previous week. The Blue Wing station furnished all. The drift from 1,000 level has been carried in thirteen feet, and that from the 1,100 station twelve feet, both running in porphyry and clay. The ore slip of the 21st shows a yield of 134½ tons, and that of the 22d, 168 tons.

Alpha—declined from $45 to $36, rallied to $45, and closed at $43. On the 22d inst., had drifted 67 feet from the shaft on the 250 level. The ground was loose, and the drift was running in white quartz....Sierra Nevada varied little during the week, selling at $28@29, and at the close realizing $33. They have found good ore sixty feet from the surface that will pay $30 to the ton. The extent of it is not yet known.

The sales in the Board during the past week have been as follows: Open sessions, $647,625; regular sessions, $1,693,868—total, $2,241,493.

Price of Copper.—The market price of ingot copper, in New York at latest overland dates, was from 23 to 24 cents. The market was easy, with free arrivals from the Lakes.

What Next?—We understand that a select library is about to be opened at Woodward's Gardens,—thus adding a new feature to its other varied attractions.

Notice.—If Mrs. E. J. Baldar, of Contra Costa County will call at this office, she will learn something to her advantage.

Those wonderful Brazilian Pebble Spectacles of Muller's, 205 Montgomery street, are made on truly scientific principles. *

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE.
Adriatic, Storey co., Nev., May 20, $1	June 30	July 31*
Alameda Coal, June 25, $1	Aug 4	Aug. 21
Amador Co., dividend, $6 per share	Payable July 29	
Apollo, Lander co., Nev. June 15, $10	July 17	Aug. 3*
Alpha Cons., Storey co., Nev., June 23, $5	July 27	Aug. 15
Adriatic, Storey co., Nev	Special Meeting Aug. 15	
Belcher, Storey co., Nev., July 13 $25	Aug. 13	Sept 14
Bullion, Storey co., May 25, $10	Sale July 29	
Baton, Storey co., Nev., div	Payable June 19	
Bear River, Nevada co., June 10, $1	July 29	Aug. 17*
Chiponcna, Mexico, July 9, $5	Aug. 13	Aug. 31*
Cherokee Flat B. G., Butte co., July 1, $5	Aug. 4	Aug 24
Crown Point, dividend, $7.50	Payable July 11	
Eclipse, Lander co., Nev., June 15, $10	July 17	Aug. 3*
Eaton place, Meadow Lake, July 11, $4	Aug. 11	Sept. 27
El Tesoro, Mex., June 18, 25c	July 25	August 16
Empire M. & M., Nev., dividend $6	Payable May 15	
Forus, Amador co., June 3, $5	July 21	Aug. 12*
Folsom St. & F. Pt. R.R. Co., June 19, $5	July 25	Aug. 8*
Gold Hill Tun., Storey co., Nev. July 18, $2	Sale Sept 9*	
Gold Hill Q M & M—dividend, $7 50	Payable July 13	
Golden Rule, Tuolumne co, div 50c ph	Payable June 26*	
Hale & Norcross, Storey co., Nev., July 22. $10.	Sale Sept 14	
Hope Gravel, Nevada co., June 15, $1	July 22	Aug. 12*
Imperial, Storey co., Nev., div	Payable June 18	
Kentuck, div. $25 per share	Payable July 20	
Kohler Bros.' L. C., July 2, 25c	Aug. 6	Aug. 27
La Victoire, Mariposa co., July 15, 50c	Aug. 18	Sept. 4
Lady Bryan, Storey co., May 25, $1	July 6	July 25
Morning Star, Alpine co., July 15, $2 50	Aug 17	Sept. 7
North Star, dividend, $5	Payable June 15	
Ophir, Storey co., Nev., June 15, $4	July 20	August 10
Osceola, May 25, 50c	Payable immediately	
Pacific Unassessable, div	Payable June 18	
Rising Star, Idaho Ter., June 23, $5	Aug 8	Sept 9
Rising Star, Idaho	Special Meeting Aug. 15	
Siempre Viva, Mex., June 15, 50c	July 31	August 17
Santiago, Silver City, dividend	Payable July 9	
Savage, Virginia, Nev., dividend, $15	Payable July 10	
Sierra Nevada, Nevada, June 30, $5	July 30	Aug 21
Senator, Storey co., Nev., June 9, 10c	July 15	July 31*
Sand Spring Salt, dividend $1	Payable June 5	
United States, Storey co., Nev., June 29, $1	Aug. 3	Aug 19
Union, Storey co., Nev., June 2, $5	July 7	July 18
Virginia & G. H. Water Co.	Dividend, payable May 15	
Yosemite, Lander co., Nev., June 9, 75c	July 16	Aug. 5*

*Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD.

Friday Evening, July 24, 1868.

	Bid.	Asked.
MISCELLANEOUS STOCKS.		
United States 7 3-10ths Bonds, June issue	$ 74	76
Legal Tender Notes	70½	71
California State Bonds, 7s, 1857	90	95
San Francisco Bonds, 10s, 1851	102	103
San Francisco City Bonds, 6s, 1855	83½	—
San Francisco City and County Bonds, 6s, 1858	89	—
San Francisco City and Co. Sch'l B'ds, 7s, 1866	87½	—
San Francisco City and Co. Bonds, 7s, 1863	87	—
San Francisco City and Co. Bonds, 7s, 1861	84	85
San Francisco City and Co Bonds, 7s, 1865	84	85
San Francisco City and Co. Judg. Bds, 7s, 1863	84	85½
San Francisco City and Co. Judg. Bds, 7s, 1864	83½	85
Sacramento City Bonds	22	25
Sacramento County Bonds, 6s	75	—
Marysville Bonds, 10s	75	85
Stockton City Bonds	70	85
Yuba County Bonds, 10s	78	80
Santa Clara County Bonds, 7s	78	85
Butte County Bonds, 10s, 1860	70	75
San Mateo County Bonds, 7s	75	78
California Steam Navigation Co	70	74
Spring Valley Water Co	—	66½
State Telegraph Co	25	30
GAS COMPANIES.		
San Francisco Gas Co	—	77
Sacramento Gas Co	80	—
RAILROADS.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	77½	80
Central Railroad	50	55
North Beach and Mission Railroad	72	72½
Front Street, Mission and Ocean Railroad	11	12
BANKING INSTITUTIONS.		
California, Loan and Savings Society	—	—
Pacific Bank	97½	—
The Bank of California	157	158
INSURANCE COMPANIES.		
Firemans' Fund Insurance Co.	85	86
Pacific Insurance Co	117	120
San Francisco Insurance Co	—	100
Merchants' Mutual Marine Insurance Co	470	483
California Insurance Co	1300	1400
Union Insurance Co	88	89
California Home Insurance Co	—	—
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	78	80
National Insurance Co	—	—
Builders' Insurance Co	90	—
MINING STOCKS—WASHOE DISTRICT.		
Alpha	43	43½
Baltimore American	—	—
Belcher	140	143
Bullion, G. H	22	25
Crown Point	88	89
Confidence	37	40
Chollar-Potosi	145	150
Oancy	5	6
Exchequer	21	22
Empire Mill and Mining Co	118	120
Gould & Curry	110	—
Gold Hill Quartz	70	75
Hale & Norcross	76	78
Imperial	108	110
Kentuck	380	385
Lady Bryan	19½	20
Ophir	19½	20
Overman	79	80
Savage	138	138½
Sierra Nevada	33	25
Yellow Jacket	1175	1185
Golden Rule, California	10	15

San Francisco Market Rates.

Wholesale Prices.

Friday, July 24, 1868.

Flour, Extra, ₱ bbl	$5 75 @	$7 00
Do. Superfine	5 00 @	6 50
Corn Meal, ₱ 100 lbs	3 00 @	3 50
Wheat, ₱ 100 lbs	1 80 @	2 00
Oats, ₱ 100 lbs	1 85 @	2 35
Barley, ₱ 100 lbs	2 00 @	2 45
Beans, ₱ 100 lbs	3 00 @	10 00
Potatoes, ₱ 100 lbs	75 @	1 00
Hay, ₱ ton	10 00 @	15 00
Live Oak Wood, ₱ cord	9 00 @	10 00
Beef, extra, dressed, ₱ lb	8 @	10
Sheep, on foot, ₱ lb	3 00 @	3 50
Hogs, on foot, ₱ lb	5 @	7
Hogs, dressed, ₱ lb	8 @	10
GROCERIES, ETC.		
Sugar, crushed, ₱ lb	14½ @	15
Do. China	10 @	11½
Coffee, Costa Rica, ₱ lb	15½@	—
Do. Rio	— @	17
Tea, Japan, ₱ lb	65 @	85
Do Green	60 @	1 25
Hawaiian Rice, ₱ lb	— @	9
China Rice, ₱ lb	— @	6½
Coal Oil, ₱ gallon	38 @	42½
Candles, ₱ lb	15 @	18
Ranch Butter, ₱ lb	50 @	57
Isthmus Butter, ₱ lb	50 @	55½
Cheese, California, ₱ lb	13 @	15
Eggs, ₱ dozen	35 @	40
Lard, ₱ lb	13 @	15
Ham and Bacon, ₱ lb	12 @	16
Shoulders, ₱ lb	9 @	10

Retail Prices.

Suttor, California, fresh, ₱ lb	35 @	45
do. pickled, ₱ lb	25 @	35
do. Oregon, ₱ lb	15 @	25
do. New York, ₱ lb	35 @	40
Cheese, ₱ lb	20 @	25
Honey, ₱ lb	25 @	30
Eggs, ₱ dozen	45 @	50
Lard, ₱ lb	15 @	17
Hams and Bacon, ₱ lb	23 @	25
Cranberries, ₱ gallon	85 @	1 00
Potatoes, ₱ lb	2 @	3
Potatoes, Sweet, ₱ lb	— @	—
Tomatoes, ₱ lb	5 @	6
Onions, ₱ lb	— @	6
Apples, No. 1, ₱ lb	4 @	5
Pears, Table, ₱ lb	5 @	7
Plums, dried, ₱ lb	11 @	13
Peaches, dried, ₱ lb	10 @	11
Oranges, ₱ dozen	75 @	1 00
Lemons, ₱ dozen	1 00 @	1 50
Chickens, apiece	50 @	75
Turkeys, ₱ lb	20 @	25
Soap, Pale and C. O.	7 @	12
Soap, Castile, ₱ lb	15 @	16

The Hancock Sewing Machine.—This is a small machine, sold at $6, which has just been introduced here. It is simple in its construction, easily and inexpeneively repaired by any watch-maker, if it should—by any of the accidents liable to sewing machines—get out of order. It makee the chain or embroidery etitch, throwing the chain upon the *upper side* of the cloth, and seems peculiarly adapted to embroidery and work on muslin goods. It occupiee but little space, each machine being put up in a neat box six by eight inches in size, and accompanied with full directions for its use. It is a nice present for a girl, and can be appreciated by any lady who has not already secured this indispeusable implement—the sewing machine. Messrs. Fuller & Co., 109 Montgomery street, are the agents for the Pacific Coast.

Through Colorado.—Our former fellow citizen, P. M. Randall, Esq., has just returned to New York from an extended trip made through the mining regions of Colorado, in the interest of the firm of Morey & Sperry, mining machinery agents, No. 95 Liberty street. Our readers may expect to receive some information gained by the observations of our California traveler.

Telegraphic Communication with Panama.—The proposition to lay a telegraphic cable from the Isthmus of Panama is meeting with much favor from business men on both sides of the Atlantic. Soundings and other observations are now being made with the view of estimating its feasibility and probable expense. Such a connection is greatly needed by the commercial world everywhere.

The Steam Plow.—The Contra Costa *Gazette* says that Coffin & Standish's new steam plow was recently tried to test its traction powers. It moved over uneven and hilly ground at a rate of about three miles per hour, running with equal facility either backward or forward, up or down hill, on the instant of reversion of motion, and handling in the readiest manner with the steering gear. Nothing could be more satisfactory than its workings upon these trials.

Empire Mill.—Captain Lee, the enterprising superintendent of the Empire mill, Grass Valley, says the *National*, has just completed a contract for a magnificent engine of 150-horse power; cylinder 18 by 42 inches. The engine is to be used for pumping, and will cost $10,000.

Our Wheat Crop.—It is estimated, by good judges, that our present wheat crop will reach the enormous amount of 20,000,000 bushels against 11,500,000 bushels, which was thought enormous for last year. Verily we are progressing.

Treasure Drift.—The treasure shipments from this city since January 1, 1868, have been $21,675,824. For the same period last year it was $21,749,750—a falling off the present year of $70,925.

A Good Sign.—The Board of Supervisors have passed a resolution, granting to the Women's Coöperative Union permission to erect a business sign at No. 39 Second street.

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County.

Miner, July 11th: The Pennsylvania Co. made 20 feet of tunnel last month, making the whole length of tunnel 769 feet. A small vein of quartz showing ruby silver all through it, was struck.

The Tarshish and Morning Star mines in this county, have each as large a ledge and as much millable ore in the mine as any mine on the Comstock, and the I X L—though not so large a vein—has richer ore than any on that model ledge.

Amador County.

Jackson *Ledger*, July 18th: Phil. Seibenthaler's quartz mine, on Foster's Ridge, above Volcano, is now down over 75 feet. The ore continues good, and the size of the lode has considerably improved. Phil. keeps an 8-stamp mill running, and the prospects for a fine mine are daily improving.

Ike Eastman & Co. have opened a mine on the same range that prospects very well. They have just completed a fine, large arastra, and are crushing ore. This mine is a half mile north of Fort John.

Butte County.

Record, July 18th: The miners at Kimshew have plenty of water, and are in good spirits over their prospects. Some claims are cleaning up and are doing well. L. A. Snow has got his water power derrick in operation, and it works to a charm.

Kern County.

Havilah *Courier*, July 11th: Rand's mine, three miles distant from Havilah, is being doveloped very successfully.

Los Angeles County.

News, July 14th: Dr. Winston has sent up to San Francisco, per steamer Orizaba, a lot of silver ore from the Zapata mine, situated on the San Gabriel River. The ore is very rich, and will no doubt astonish some of the wiseacres who think we have no mines in Los Angeles County.

Mariposa County.

Gazette, July 17th: A rich quartz vein has been discovered within about a mile and a half of Lovejoy's sawmill.. The owners are Williams, Fine, Harbour, and others. We are told that the vein is very large, and the prospect big for a fortuue.

The quartz mill known as the Fremont mill, near Bear Valley, was burned on Sunday last. The mill had been running the day previous, and it is supposed that the fire caught from ashes thrown from the furnace too near the wood pile. The mill was valued at from $15,000 to $20,000; insurance, $5,000.

Mail, July 17th: An exceedingly rich gold quartz lead has been discovered on Buckingham Mountain, 12 miles from this place. The vein is about five feet in thickness. We have examined specimens of the rock, taken at random, the appearance of which satisfies us that a big thing has been struck.

Another rich strike is reported to have been made near Carriboo, in this vicinity. Our friend Murphy has sent us a lot of rich ore and specimens from the locality of Kerrins & Bogan's quartz mill.

Nevada County.

Alpine *Miner*, July 11th: The Elmonton claims, located near the North Star Co's mine, Nevada County, were lately sold to the latter company for the sum of $30,000. These claims were 1,000 ft. in extent, and very little work has ever been done on them. The whole cost of the Elmonton claims to those who recently sold them would not foot up to over $800.

Grass Valley *Union*, July 15th: The Idaho Co. is taking out good rock. The shaft is 82 ft., and the ledge is large.

A clean-up from the Union Hill mine was made day before yesterday, after a five days run, and the sum realized was over $3,000. This was larger than any of the owners anticipated, as the rock crushed was not of the best class.

The North Star mine continues to do well, and a large clean-up will come off next Monday.

Eaton's mill is to be removed to the Greenhorn ledge, which is about five miles from Grass Valley. The ledge has been rich heretofore, and late prospects from there justify the owners in putting up machinery.

July 17th: Thirteen loads from Henderson & Autrey's ledge, on Woodpecker Ravine, yielded $13 per load. The Ben. Franklin ledge has 50 loads crushed, which yielded over $45 per load.

July 18th: Yesterday there was brought to town some exceedingly rich rock from the Easley ledge, about a mile east of this place. The rock came from the bottom of the 90-ft. stope, and about 20 tons have been taken out, all through which gold is plentifully distributed. The rock will come near to the thousands per ton in yield.

Transcript, July 17th: We saw some very rich specimens of quartz from the Banner mine, which were taken out yesterday. The rock is of a bluish cast, and the pure metal can be seen in every part of it. The Banner is now yielding excellent returns.

In every part of the county the miners have abundance of water, and are taking out large amounts at every clean-up. The yield of quartz mines has greatly increased.

July 21st: Kaiser & Co. have located 1,000 ft. on the extension of the Garden City ledge, Grass Valley, and organized the Nevada Mining Co., for the purpose of working the claim.

Slatliff & Co. have located 1,860 ft. of ground for hydraulic mining at Liberty Hill, Little York township, between Steep Hollow and Bear river.

Gazette, July 16th: Capt. Lee, superintendent of the Empire mine, has just completed a contract for a magnificent engine 150-horse power; cylinder, 18 by 42 inches. The engine is to be used for pumping, and will cost $10 000.

July 20th: A company has been engaged for several years past in running a tunnel for a gravel channel at Grizzly Ridge, near Pattee & Co's quartz mill. Last week the company reached the gravel in their tunnel, and found excellent pay.

Placer County.

Enquirer, July 11th: The Dutch Flat, one of the oldest claims in this section has made its final run. The ground is worked out on the present level. We hope that its owners will immediately commence prospecting for the blue lead. The last run was a good one; averaging nearly $200 per day.

Plumas County.

Downieville *Messenger*, July 18th: A correspondent writing from Port Wine, says: The Sore Lip Mining Co. purchased a tailing claim of Doc. Slocum, some time ago, and have done very well.

The Never Sweat Co. are hard at work on the claims down on Jackass Point, previously owned by McLaughlin & Harkins, The cement is very hard and plenty of it, and it requires muscular boys to face it. Dump Shed cannot be beaten in this State, on smashing boulders and cement. The boys are improving their time, as the water season will not last long.

Sierra County.

Downieville *Messenger*, July 18th: The American claims at Morristown, owned by Tom. Smith & Co., are now working about 60 men, and doing very well.

A correspondent writing from Forest City, says: Messrs. Gregg, Wade & Co. have struck good pay in their claims. They have reached an old channel, with an abundance of gravel. The gold is coarse and smooth, with pieces of considerable size. With the claim but partially opened, and with but indifferent means for working it, they realized from $6 to $10 a day to the hand.

The Brush Creek mill is being pushed forward rapidly, and will soon be finished. It will be a first class mill, to correspond with the richness of the mine whose rock it will crush.

Everything around the Union ledge, in French Ravine, is going forward favorably.

Shasta County.

Courier, July 18th: Botsford & Higinbotham are at work on their quicksilver claim, at South Fork, and are meeting with the most flattering prospects. As much as a pint of pure quicksilver is often taken out of crevices in the rock at one time. There is no doubt but that this mine will prove very valuable, and its discoverers will realize fortunes in a short time.

Dr. Gibbon, of San Francisco, lately visited this county to examine into the feasibility of constructing a large ditch to take water from the North Fork of Cottonwood to the placer diggings in and around Piety Hill. The cost of the enterprise has been estimated at $60,000.

Siskiyou County.

Yreka *Union*, July 11th: A company of prospectors will meet at the camp of Fairchild & Doughton, on Lost River, on the 25th of this month, and will then organize and start for the headwaters of Sprague River, for the purpose of prospecting for the precious metals. This is a movement of considerable importance, and some of our best citizens are interested in it. The opinion obtains very extensively that there is a section of country off to the east of Klamath Lake, and north of Goose Lake, which is rich in gold. This opinion is based on reports made by parties who pretend to have passed through that district and prospected to a limited extent, and also on the known character of the region. Heretofore it has been impracticable to stop in that country on account of the hostility of the Indians, but now, owing to the presence of a large body of troops, under that indefatigable Indian fighter, General Crook, it is thought a company of 20 or 25 men will be perfectly safe.

Stanislaus County.

Sonora *Sentinel*, July 18th: A correspondent says: All that is lacking to make La Grange one of largest and richest placer mining districts in the State, is water, and it is hoped that the Tuolumne Water Co. will extend their ditch so as to lead the water to that place.

Solano County.

Press, July 15th: The Evans claim at Buckeye Hill, in Bridgeport, owned by Stidger & Co., are yielding large profits.

Trinity County.

Weaverville *Journal*, July 4th: Henry Potter & Co. have finally found it to the tune of an ounce a day to the hand, in their claims on Egan's Bar, half a mile below Junction City. They are certainly deserving of success, having worked without ceasing for 23 months to get their claim open, during which time they have cut a deep bedrock ditch 1,033 feet in length.

July 11th: Wilt & Driver's claims, at Park's Bar, is one of the richest ever opened on Trinity River, and the owners can take out at least $30,000 this year if they desire. This is one of the good results attending the opening of McGillivray's ditch from Cañon Creek.

July 18th: A gold-bearing quartz ledge of extraordinary richness has recently been discovered by Henry Engle and other parties, on Rich Gulch, a tributary of the lower East Fork. Specimens have been received here which, from outward appearance, are as rich as those taken from the famous Ish lodo, years ago. The ledge is only a short distance from the Ludwig ledge, which was partially prospected in 1864. Much excitement prevails at North Fork over the discovery, and we shall not be surprised to hear that a rich and extensive ledge has been discovered, having always entertained the belief that it would eventually be found in the Rich Gulch section, if anywhere in the county.

The mines along Cañon Creek are yielding well, and from appearances, we should judge that considerable prospecting is being done. There is undoubtedly a great range of unopened mining ground between Pennsylvania Bar and Red Flat. Many new comers have located along the creek the present season, and there is room for many more if they bring industry and perseverance with them. We saw at Gilzeau's a handsome $40-specimen taken from Dick Berkley's claim, which had been pronounced worked out. Wolff and partner have a rich paying claim between Red Flat and Pennsylvania Bar.

Tuolumne County.

Democrat, July 18th: The new mill erected on the Crœsus mine is a magnificent structure. It is constructed for 20 stamps. One hundred tons of first-class rock is ready for crushing.

The big flume on the Golden Rock ditch fell on the 9th inst. This flume spanned the Big Gap 12 miles above Big Oak Flat, and was the most stupendous and magnificent structure of the kind in the State. It was 3,200 ft. long, and 280 ft. high from the deepest part of the gap. It was a suspension, the wire cable being supported by 13 towers, built at regular intervals in the gap, and was built in 1859 by Messrs Holt & Conrad.

The Golden Rule mine has a fine 15-stamp mill, which is kept running night and day, and crushes about a ton to the stamp. The entire vein, from 7 to 9 ft. wide, is hoisted and crushed. The rock pays, uniformly, about $10 per ton, and last month the mine cleared $5,000 over all expenses.

ARIZONA.

San Francisco *Alta*, July 17th: The copper ore brought up here a few days since, by Wm. Thompson, Supt. of the Great Central mine, Arizona, taken from that mine at a depth never reached before, has been assayed and found to yield over 60 per cent., about three times as rich as that taken from the surface.

Miner, July 4th: Mining is dull just now. Very few arastras are running, on account of scarcity of water.

The Vulture is a great mine, and the deeper it is sunk upon, the riches it grows.

BRITISH COLUMBIA.

News, July 12th: At Carihoo the claims on Williams' Creek, Mosquito Gulch, Conklin Gulch, Red Gulch, Stout Gulch, Antler Creek, Steven's Creek, Begg's Gulch, and Little Lake Creek, are all paying handsomely. Fifty Chinamen are at work in the latter place, and are making from $5 to $7 per day to the hand.

At Williams Creek—Forest Rose Co. washed up for the week, 213 ozs.; Lillooet, 100 ozs.; Sheepshin, 150 ozs.; Baldhead, 95 ozs. Mosquito Gulch—Minnehaha, 348 ozs.; Willow, 165 ozs.; Hocking, 453 ozs., and Point, about 100 ozs. Couklin Gulch, Renfrew Co. washed up 53 ozs. Stout Gulch—Taft Vale, 150 ozs.; Muchu Oro, 86 ozs.; Jenkins, 50 ozs.; Alturas, 50 ozs., and Floyd, 27 ozs.

COLORADO.

The Cimarron river is a branch of the Arkansas, and rises in Huerfano county, Colorado, on the eastern slope of the Rocky Mountains. Its course is easterly, winding several times across the parallel of 37°, which forms the boundary line between Colorado and New Mexico.

Rocky Mountain *Herald:* The Cimarron mines will afford a profitable field for thousands of miners after the ditch water is available on flats and patches. The fact is fully settled in the minds of all the bona fide miners on the Moreno and Cimarron generally.

J. F. Robinson has sold out his mining interests on Willow and Last Chance for $13,000.

On New Orleans Flat, five men working a sluice, took out $1,000 in a single 10-hour run, week before last. The pay streak was only down about eight ft. from the surface.

As an average fact, 300 miners actually working throughout the Moreno mines are doing well, and may be said to average an ounce a day to the man—after they get down to the pay streaks, which are generally eight to ten ft. below the surface.

The chief mining is with sluices; except in Willow and Grouse Gulches, where there are a couple of hydraulics.

Mining claims on several of the gulches can be bought, rented, or worked, by whoever wants to work, quite reasonably.

Near Ute City the new quartz lode lately discovered by Mr. Maxwell, assays big, turns out quartz specimens perfectly speckled and saturated with free gold.

July 1st: In Granite district Mr. Royle has started up his 9-stamp water mill on quartz from the Yankee Blade lode. This company have 30 cords of surface quartz out, which prospects very rich. As yet they have only reached a depth of 40 ft.; at that depth the pay material holds out well.

Morrisou's 10-stamp steam mill is about completed, and will be running about the first or the middle of the coming month. Mr. Fullerton has a 10-stamp mill, built by Hendrie Bros. at the Eureka Foundry, on the road in. Parties are at work on the Magneta lode. At a depth of 25 ft., they have a 2-ft. crevice of fine looking free quartz. Mr. Tappan, of Boston, has purchased a one-fourth interest in the Five-Twenty lode, and has a 10-stamp Gates mill *en route*, which will be set up in California Gulch. This company now have out in the neighborhood of 60 cords of quartz, and are still developing the lode. The former owners have sluiced out as high as five ozs. of gold per day, three men working. On California Gulch they have just got their claims in running trim. Mr. Thos. Wells, who is running two hydraulics and ground sluicing, is taking out at the rate of $12, gold, per day to the man. Parties sluicing on the side claims of California Gulch, had taken out $1,000, gold, in two weeks' time. The gold production this season of Lake and Park counties, will average 1,000 ozs. per week, throughout the mining season.

The Apex lode, situated on Saxon Mountain, Clear Creek county, is said to be one of the strong silver veins of that locality. A shaft has been sunk to a depth of 18 feet, which shows a crevice of four ft. between walls, with an ore vein of from seven to ten inches of sulphurets. A fair assay shows the ore to contain $800 per ton. This was a chance specimen, but the entire vein of mineral would yield a sufficient quantity of silver to pay handsomely for working.

July 8th: The La Crosse mill, Nevada, started up yesterday. This mill has been idle—until this spring—for some time.

Barham Miller & Co., since the erection of a new whim on claim No. 1 east, on the Bates or Hunter lode, have been sinking their claim to a greater depth. Their last clean up gave them at the rate of nine ozs. gold to the cord.

Shaughnessy, Lee and Connor are still working the Kansas slide, in Nevada. They are now working the claim with great success; sluicing out never less than one oz. of gold per day to the man.

Richard White cleaned up last week 42 ounces of very nice Russell Gulch gold, which he sold to Warren Hussey & Co. Uncle Dick says that his claims are panning out better this summer than they have since '62.

There is an active demand for both gulch and lode miners. Ruling wages $3.50 and $4 for gulch miners, and $3.25 and $5 for lode miners. There is not a company operating on Russell or Lake, but are not running light handed.

Mr. Old is collecting in the interests of the British and Colorado Mining Bureau, London, Eng., specimen ores of all our mining lodes.

Denver *News*, July 8th: Black Hawk is recovering its old prosperity. The mills are all at work; have had and will have before long, an addition of six or eight to their number.

During the month of June, just passed, $130,000 worth of gold and silver was shipped East by the office of Wells, Fargo & Co., $8,000 or $10,000 of which probably came from the Cimarron, the rest produced by Colorado.

At Hussey & Co's, this morning, were nine bars of gold bullion, weighing 312.-33 ozs., valued at $5,390 in coin. At the First National were eleven bars, weighing 550 ozs., and valued at $13,757 in coin. At the Colorado National were 87 ozs. of dust, valued at $1,500 in coin.

IDAHO.

World: Geo. C. Robbins has the survey of his great War Eagle Mountain tunnel completed. Its entire length will be 8,067 feet, and its greatest depth 1,340 feet. It will tap or penetrate 15 well-defined good-paying ledges—among them the Poorman, Ida Elmore, Golden Chariot, Oro Fino, Silver Cord, and War Eagle.

MONTANA.

Helena *Post*, July 10th: At the Gold Creek mines on Bratton's Bar, in Pioneer Gulch, ten claims are worked by means of hydraulics, and are paying from $1,500 to $2,000 per week, with six men working.

Mining operations in the Silver Bow country are very active. One of the most important enterprises in that quarter, is the large ditch being constructed by Messrs. Searles, Harris & Owen. This ditch will convey 800 inches of water from Basin Gulch, a distance of 16 miles, to very extensive mining grounds in the vicinity of Silver Bow. Pioneer, I X L, Herring's, Morgan's, and fourteen other gulches, besides numerous bars, will thus be supplied with an abundance of water.

At French Bar, on the 1st inst., the Canard Co. cleaned up, after a 48-hours' run, with four or five men at work, $1,900.

On Indian Creek, at Cheat 'Em, the May boys, five in number, are cleaning up from $350 to $400 per day. The Steele boys are doing equally as well on claims adjoining. A new discovery has recently been made on Indian Creek, about seven miles above Hog 'Em, which is attracting much attention. The diggings are deep, and prospects of from 25 to 60 cents to the pan have been obtained at a depth of 40 feet, and these results are obtained without reaching bedrock.

The old miners on the lower part of El Dorado Bar are making from $10 to $12 per day to the hand.

Rich pay has been struck at the upper end of New York Gulch. Tunnels have now been run to it, and prospects of forty cents to the pan have been obtained on the claims of Apple, Wilkes & Co. The bedrock is from 40 to 60 feet below the surface.

At Cane Gulch, 50 men are now employed. The average pay which is being obtained by the miners is from $15 to $25 per day to the hand. About 18 companies are at work upon the bar, which is not yielding less than $5,000 per week.

Now diggings were discovered about the middle of last week between the head of Crow Creek and the divide of Boulder, about 12 miles from Radersburg.

At Georgetown, near Trinity, one day last week, Vandine, Peck & Co., cleaned up from a single day's run with two men shoveling in, $200.50. On several other occasions they have cleaned up $180, with the same number of men, and in the same length of time. Nearly all the other claims are worked by means of ground sluices, and are paying on an average, $10 a day to the hand.

At Diamond City, King & Gillette's bedrock flume being provided with an abundance of water, is progressing finely. It is expected that work will be resumed in the main Confederate Gulch, in a month or six weeks. From Capt. Hill's claims, on Last Chance Bar, immense quantities of dirt are being washed away by means of hydraulics. It is expected to scrape up a rich harvest of gold from the bedrock at the proper season. On Gold Hill, some $3,000 were cleaned up about ten days ago, after a short run. In Montana Gulch the great flume has reached bedrock, and the powerful hydraulics are washing down the golden sands at a rapid rate. Just below the mouth of Cement, in the upper portion of Confederate Gulch, the ground has recently been proved to be exceedingly rich. One hundred feet of ground situated in that vicinity, lately sold for $2,800. A claim just below that last named, was sold about a month ago for $1,800. The purchasers ran a drift nine feet in length, and in that short distance took out gold enough to pay for half of their purchase.

NEVADA.

Esmeralda.

Aurora *Union*, July 11th: The Palmetto Co. have now upon the dump from 500 to 1,000 tons of good milling ore. The foundation of the mill is completed, and in a very short time the company will be shipping bullion.

Pahranagat.

Virginia *Trespass*, July 18th: The mill of the Hike Co. is being repaired. The Pro Rata Co. have struck a ledge 14 feet thick, yielding handsomely.

Reese River.

Reveille, July 7th: We saw at the banking house of John A. Paxton & Co., a piece of chloride ore obtained from the Keystone claim in the district of White Pine, which weighs only about 30 pounds, and yet its value is upwards of $150. The piece is a mass of horn silver, which may be easily indented or scraped by the finger nail. We were informed that the owners of the Keystone have taken out of their ground a number of tons that will yield in the mill from $800 to $1,000 per ton; and that a selected lot of 20 tons would yield as high as $2,000 per ton.

In the South American mine a fine vein of ore has been struck at the depth of 300 feet, in the level extending south.

July 11th: Six tons of ore from White Pine assayed an average of $1,376 per ton.

Yesterday afternoon some 3,500 ounces of crude bullion were brought into the city from the Monte Cristo mill, in the district of White Pine.

For the five days ending yesterday, the Manhattan mill produced 17,908 ozs. of crude bullion.

During 23 days of the quarter ending June 30th, 71 tons of ore from the Hidden Treasure were reduced at the 5-stamp mill of the Monte Cristo Co., in the district of White Pine, which yielded an average of $120.21 per ton.

To-day David Lundbom received 3,410 ozs. of crude bullion for melting and assaying.

July 13th: During the month of June the Manhattan mill reduced 541½ tons of ore, which yielded $124,501.23.

July 14th: Men are rushing to White Pine as though that was their last chance.

The last three days run of the Combination mill yielded bullion worth $9,000.

Silver Bend *Reporter*, July 15th: A correspondent writing from White Pine says: The Virginia, Keystone and Eberhardt are the only rich *pockets* worthy of mention. I have never elsewhere seen as rich pockets of ore as I saw in the above named mines. The famous Hidden Treasure mines No. 1 and 2 are also situated on the south side of Treasure Hill.

July 18th: In Bonanza, the El Dorado South, owned by Leon & Co., has 100 tons on the dumps which will yield $125 per ton, and 100 tons which will yield $250 per ton—aggregate value $37,500, as the result of the labor of 10 men for one month. The average thickness of the vein is 30 ft. It is the richest mine in Nye county, and of more value than all the deposits at White Pine.

Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Gold Hill *News*, July 15th: The old Chollar works are being overhauled and put in working order.

The Pacific Mill Co., Lower Gold Hill, yesterday received a fine new engine.

Gold Hill Branch Assay Office of E. Ruhling & Co., received this morning for melting and assay, 11,511 ozs. crude bullion.

C. Wiegand & Co., of Gold Hill, received this morning for melting and assay, 2,090 ozs. crude bullion.

There were shipped from Wells, Fargo & Co's Gold Hill office this morning 14 bars of bullion, weighing 1,031 lbs., and of the assayed value of $28,305.31.

July 18th: The Rhode Island mill at Gold Hill, belongs to the Crown Point Co., and runs entirely on ore from that rich mine, reducing last month 1,800 tons, or at the rate of 60 tons per day.

The following is a statement of the amount of bullion shipped or received for assay during the past week: From the office of Wells, Fargo & Co., in Gold Hill, there were shipped 4,032 lbs. of assayed bullion, valued at $113,039.49; from their office in Virginia, 6,095 lbs., valued at $171,358.82. The amount of crude bullion received for melting and assay is as follows: E. Ruhling & Co., of Virginia, 20,082 ozs.; Leopold Kuh, of Virginia, 1,243 ozs.; W. C. Bousfield & Co., of Virginia, 27,020 ozs.; Gold Hill Branch Assay Office of E. Ruhling & Co., 38,222 ozs.; Wiegand & Co., of Gold Hill, 23,299 ozs.

The Sunderland is a 10-stamp mill, and reduced during the last month 850 tons of ore. With its very superior methods adopted for extracting the precious metals and the concentration of sulphurets, ore is evidently worked closer in this mill than any other in Gold Hill.

Gold Hill Branch Assay Office of E. Ruhling & Co., received this morning for melting and assay, 8,480 ozs. crude bullion.

Territorial Enterprise, July 15th: The Baldwin district lies on the western shore of Walker Lake and is well timbered and watered. Assays from the croppings of some of the prominent leads have yielded at the rate of $900 per ton in silver and gold.

The Cole Co. are still finding very fine ore in their mine in the place where they struck the rich streak a month or two since. In following the streak upward it has widened out till there is a body of pay ore eight ft. across. Assays made of this ore run from $40 to over $1,000 per ton.

July 17th: The new shaft of the Ophir Co. is now down 300 ft. The new shaft of the United States Co. is down 100 ft.

Work has been resumed upon the Bowers and Plato mine, Gold Hill.

The Petaluma mill, Lower Gold Hill, is now crushing about 60 tons of ore per day from the Kentuck mine.

The Imperial Co. are about to commence sinking a winze in the east drift, 700-ft. level, of their old works, to connect with the west drift from the Imperial-Empire shaft, 900-ft. level.

The Sierra Nevada Co. are building a large and substantial mill immediately adjoining their hoisting works.

Evans & Co. are building a new quartz mill on Cedar Ravine, a short distance below the Mariposa mill, and it is so near completed that it will start up to-morrow.

NEW MEXICO.

Santa Fe *Gazette*, July 4th: There are 1,000 miners at Elizabethtown. Nearly 400 men are employed on the great ditch, which will cost $115,000.

OREGON.

Jacksonville *Sentinel*, July 18th: The Occidental mill is crushing quartz from the Johnson & Elder lead. A clean up will be made some time next week. Everything looks flattering so far for a rich run.

Col. Drew commenced work on the Holman lead on Wednesday morning last. Four miners are employed in taking out quartz.

UTAH.

Reese River *Reveille*, July 16th: This morning a teamster brought into the city from a cañon about 40 miles from Salt Lake City, which he offered to sell at the low rate of 6½ cts. a pound. The coal is of the bituminous variety, and is excellent for the manufacture of gas.

WYOMING.

Sweetwater Mines, June 20th: Rock Creek as a gold-bearing creek, increases in reputation from day to day as work is pushed forward on the different claims. As high as 55 cts. to the pan has been taken out of some claims just above Atlantic City, this week by some companies opening their claims.

We yesterday paid a visit of inspection to the tunnel of the Hermit Mill and Mining Co. This company is composed of energetic, wide-awake gentlemen, who propose cutting the Cariso Hill in twain, thereby developing the numerous veins that intersect that locality. The work on the tunnel so far reflects great credit upon the superintendent, Mr. Vaughn. For the first 45 ft. the rock was exceedingly hard and slow progress was made, but from present indications we expect the work will be pushed forward rapidly. The tunneling operation of this company is one of the largest mining ventures yet started in the country and we have no doubt will well reward—as it should—the boldness of the originators.

The recent discoveries in Jones' Gulch have caused considerable excitement here and elsewhere. The gulch is about five miles southeast of Atlantic City, in California district, and the late developments there have encouraged the operators in the belief that they are in possession of diggings which will pay them $25 a day to the man. By the discoveries which are daily being made of both quartz and placers, we are insured in the belief that the country has not been thoroughly prospected yet, and we are confident that in the future discoveries will be made which will eclipse anything we now have, if possible.

June 24th: At Wind River are found warm springs, marble lodes, slate rock for house covering, tables, etc., oil springs, tar and many other natural productions.

We saw a prospect on Tuesday last taken from the Cariboo ledge, situated about one mile from Atlantic City, and which was, to say the least, extraordinarily rich; this ledge was discovered April 25th, 1868, by L. Pease, Esq.

Col. Tozer is rapidly driving forward the work on his quartz mill, and will have it in running order, crushing rock by the 15th of next month.

July 3d: The miners in Jones Gulch are getting very satisfactory results, and anticipate a rich harvest as soon as they get their ditch in from Rock Creek, which will furnish them an abundance of water for placer mining. No other country, that we have ever seen, in over nineteen years of mining experience, offers such inducements for energetic men with capital, as this one. There are innumerable dry gulches and sags that are known to prospect rich, which could have an abundance of water brought on to them at a slight expense, in comparison to what it has cost in older mining sections.

The owners of the Young America ledge have got out several tons of the valuable ore, and intend to have it crushed when Messrs. Tozer and Eddy complete their mill.

We visited the placer claims of Messrs. Wilson, Nichols, Haven & Co., on Tuesday last, and were gratified at the sight of some fine nuggets. One of them—the largest—worth about $120, was picked up by Mr. Wilson. These gentlemen labor under many difficulties in doing their work on account of the very limited supply of water, yet they have obtained nearly 200 ounces of ore.

Tozer & Eddy are taking very fine ore from the Cariso ledge. The Julian ledge is situated about one-half mile north of Atlantic City. It was discovered and located June 2d, 1868, and contains 1,200 ft., owned by Messrs. Sheenan, Davis, Clawson, Manson and Lane. The company have a shaft sunk to the ledge 15 ft. deep, disclosing a vein of excellent ore five ft. in width, showing free gold in numerous instances.

Workmen upon the Eastern Slope ledge have at last struck the vein at a depth of 10 ft., and are now taking out quartz of a good quality. The claim was located by R. Grace, Esq., and bids fair to be a valuable one. The claimants have been prosecuting the work with much vigor.

The James Dyer Co. are pushing forward the work of development on their fine property with commendable energy. They have let a contract for sinking their shaft, and expect to have several thousand dollars worth of ore on the surface ready for crushing, by the time Col. Tozer's mill is in operation.

The miners in California are doing remarkably well in working their different placer mines. We hear that some of them are making as high as $40 per diem. Scarcely any of them less than $10.

Cheyenne *Star*, July 4th: A. F. Spicer, an old Pioneer and Colorado miner, called at our office yesterday, and showed us a bottlefull of as nice gulch gold as we ever saw. He procured it 45 miles southwest from Fort Sanders, near the Colorado line, in a new mining district, organized under the name of Antona, upon a stream tributary to North Platte, named Antona river. This is quite a large stream, sufficient to furnish an abundance of water for mining purposes. It is a few miles south of Rock Creek. He also showed us some gold-bearing quartz from the same neighborhood, which looks very promising. We know, from having visited that section, that there are indications of rich gold and silver mines all through that country. Mr. Spicer had $75 worth of gold. In procuring it he made $7.50 per day, and was working with poor sluices and at great disadvantage. He is certain that it will pay $10 per day to the hand. He and his party have prospected several miles of this gulch, with about the same results as where they were working, and thinks the mines are extensive. There was another company operating just below him with still more favorable results.

The pearl fishery grounds recently discovered at Western Australia extends along the coast for 1,000 miles. Upwards of fifty tons of pearl oysters were fished up in December last, and sold for £100 per ton.

The tour of the world can be made in two months and a half, when the Pacific Railroad is finished.

Mining and Scientific Press.

W. B. EWER.....SENIOR EDITOR.

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WRITERS should be cautious about addressing correspondence relating to the business or interests of a firm to an individual member thereof, whose absence at the time might cause delay.

Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

Dr. L. G. Yates is our duly authorized traveling agent, July 6, 1867.

Mr. A. B. Butler is a duly authorized traveling agent and correspondent for this paper. July 15, 1867.

San Francisco:
Saturday Morning, July 25, 1868

Notices to Correspondents.

ALPHA.—It is not uncommon when employing the word element in its popular acceptation, to use it in the same sense in which it was applied by the ancients, viz.: as denoting fire, air, earth and water. All these have been shown, during the last century, to be compounds; and the term is now only used, scientifically, to denote bodies which, up to the present period, have resisted all efforts made to decompose them. The total number of what are now considered elements is about sixty-five. The well-known metals are among the most numerous, to which have to be added the gases,—hydrogen, oxygen, chlorine and nitrogen, carbon, silicon and boron, sulphur, phosphorus, etc.; the remainder, not enumerated above, are relatively unimportant so far as quantity is concerned.

ARCHÆOLOGIST.—Chemistry cannot be asserted to have had an existence prior to the sixteenth century. We find in the writings of the earlier chemists, many curious and important facts and discoveries, which remained useless and unapplied, so long as men's minds were exclusively employed with the transmutation of metals, the composition of an universal elixir, and the production of the *Alcahest* or general solvent. It is sometimes profitable and generally amusing to revert to these crude speculations and waking dreams of the writers on such subjects, who were eminent during the fourteenth and two successive centuries; but the time of a student will be more usefully occupied in garnering the labors of those who, discarding visionary hypotheses, proceed to the investigation of truth by the steady light obtainable from the sun of philosophy.

LITHOS.—Silica or silicic acid, may be obtained in a state of purity as follows: Heat to redness, in a platinum crucible, powdered rock crystal (quartz) with a quantity of carbonate of soda or potash; add to the solution a quantity of hydrochloric (muriatic) acid, and evaporate to dryness; a fine gritty powder will remain, which on being well washed with water, and subsequently ignited, will leave a residue of pure silica.

PROSPECTOR, Napa County.—Nickel and cobalt may be separated by adding cyanide of potassium to a solution of those metals; a precipitate of cyanide of nickel will thus be formed, which re-dissolves on adding an excess of the re-agent,—a double compound of cyanide of nickel and potassium being produced, which is soluble in water. The double cyanide is to be decomposed by dilute sulphuric acid, with precipitation of cyanide of nickel.

L. S., Hunter's Valley.—The variety of copper ore, allied with silver, to which you allude, both metals being associated with selenium, is denominated *Eukairite;* this term was employed in allusion to its discovery almost simultaneously with the conclusion of Berzelius' examination of selenium. The term is derived from a Greek word signifying *opportune.*

SMELTER, Gold Hill.—Proof-lead of the greatest purity may be obtained by the following method: Dissolve sugar (acetate) of lead, in a small quantity of hot water; filter, and then add plates of zinc to the solution until the metallic lead is wholly deposited. Dry the resulting lead between folds of blotting-paper, and preserve it in a well stoppered vial.

General Condition of the Mining Interest.

We have been much interested the past week in looking over some portions of Mr. Browne's final report, on the mineral resources of the Pacific Coast. From the data set forth in this document, it seems impossible to come to any other conclusion than that we are just entering upon the beginning of our grand success as a mining people. The following remarks of Mr. Browne are in accordance with the observations of nearly all who have taken a careful survey of our mineral prospects:

After many years of travel over the mining regions, I feel justified in asserting that our mineral resources are practically without limit. Explorations by competent parties during the past year, in many parts of the mineral regions hitherto unknown, demonstrate the fact that the area of the mineral deposit is much larger than was ever before supposed. It is safe to assume that of the claims already recorded in the settled parts of the country, and known to be valuable, not more than one in a hundred is being worked; and that of those worked, perhaps not more than one in fifty pays anything over expenses, owing to mismanagement, inefficient system of reducing ores, want of capital, cost of transportation, and other causes susceptible of remedy. In many districts of Nevada, silver ores of less value than $100 per ton cannot now be worked by mill process so as to pay expenses; and there are districts in Idaho and Montana where gold bearing ores will not justify working unless they yield from $20 to $50 per ton.

With such wealth of treasure lying dormant, it cannot be doubted that, by the increased facilities for transportation and access to the mines soon to be furnished by the Pacific Railroad and its proposed branches, and the experience in the treatment of ores, and the scientific knowledge to be acquired in a National School of Mines, adequate to the necessities of the mining population, the yield must eventually greatly increase.

So far as California is concerned, Mr. Browne admits that the gold yield is decreasing; but that decrease is due to the gradual exhaustion of the more easily accessible placer mines. This is a result which might reasonably have been expected. Placer mines, from their very nature, must be limited in their extent. Still it will be many years ere the present yield from that class of mines falls below the present average, as the most of the gold now obtained therefrom, is from the deep mines or hydraulic diggings, which are immense in extent and whose exhaustion must be the labor of more than one generation.

Our chief reliance is upon vein mining, the extent of which is practically illimitable. This description of mining was never so prosperous or so well understood as now; and it is, moreover, constantly improving, with the fairest prospect of continued increase for generations to come. True there have been many losses in this branch of mining industry, for it is a business offering unusual chances for folly and ignorance in its prosecution. Such results may in a great measure be ascribed to the reckless and adventurous spirit so characteristic of Americans, who take the lead in the development of the mines, and who, though energetic and generally intelligent, lack experience in this particular branch of industry, and are, moreover, prone to extravagance and reckless speculation.

Mr. Browne lays great stress upon these "blunders," as he calls them, and remarks that though they are being gradually corrected, yet they are still sufficiently common in California to detract nearly or quite one-half from what should be the yield of our mines, under a proper management. In describing these mistakes he says: "The greatest common blunder in quartz mining, and the most common error in early times, as well as in our own days, has been that of erecting a mill before the vein was well opened, and its capacity to yield a large supply of good rock established. The commission of this blunder is conclusive proof of the utter incompetency of its author to have charge of any important mining enterprise. If there were any possibility that it should in some cases lead to considerable profit, there might be an excuse for it; but there is none,—it never pays. All the chances, including that of utter failure, are against it."

This is the abyss into which many a once hopeful company has been plunged, not only in California, but in Nevada, Colorado and other localities as well.

The next "blunder" to which Mr. Browne refers, is the lack of discrimination "between a pocket vein and a charge vein. The existence of rich specimens was considered proof of the high value of a mine; whereas among experienced quartz miners, it excites their suspicions and distrust. Nine-tenths of the lodes which yield rich specimens do not pay for milling." This latter is an important fact which should be borne in mind by Eastern or outside purchasers or investers in mines.

The next error alluded to is that, until recently, nothing was known of "pay chimneys;" if good quartz was found in one place in a mine, it was presumed that the whole mine was of like character. It often occurred that their pay chimney was near the end of one claim, from which it dipped into another, leaving the first almost barren of pay rock. In some cases the miner did not know enough of mining to follow a chimney when he had it in his own claim.

A fourth error particularly referred to was that of sinking a shaft when there was no warrantable indication at the surface—a policy which may do in mining for the baser metals, but which is exceedingly risky in searching for gold or silver.

After alluding to a few other errors of minor importance, Mr. Browne appropriately sums up the whole matter in a very few words as follows: "The business will never be established upon a proper basis until the superintendents, as a class, are well educated chemists, mining and mechanical engineers, and mine owners frequent visitors, if not regular residents, at the mines."

SAN FRANCISCO GLASS WORKS BURNED. We regret to state that the San Francisco Glass Works, at the foot of Third street, in this city, was greatly damaged by fire on Thursday morning last. The building and tools, and a large amount of manufactured stock, was destroyed. We are happy to learn, however, that the furnaces and melting pots, both those in use and those in process of seasoning, were comparatively uninjured. The loss is about $10,000, on which there was an insurance for $5,500. This was the most important glass manufactory ever put in operation on this coast—and the only one where white glass has ever been successfully made. The works have been operated by Mr. C. Newman, who has spent a large amount of time and money in bringing it into successful operation. We understand that the works will be rebuilt immediately.

RICH SPECIMENS.—A fine lot of very rich specimens was recently received by Mr. J. W. Moyle, of this city, from the Oriental G. & S. M. Co's mine, (late the Union mine) located in Wet Ravine, Forest Township, Sierra County. A portion of these specimens were sold to be worked up into quartz jewelry; a large specimen may be seen in the show-window of William E. Goldsmith, 505 Montgomery street. Thirty-three pounds of the poorer portions of the specimens were crushed, and yielded sixty ounces of gold, assaying $1,053. Mr. J. W. Moyle, of this city, is President of the company, which has recently been incorporated.

MESSRS. TALBOT, GAWLEY & JOHNSON, auctioneers in this city, have received the appointment for selling the tide lands at auction, under the State authorities. This is a new firm, who have thus received a high compliment and an important trust.

The Mariposa Estate.

We were somewhat in error, last week, in our statement in regard to the present proprietorship of the Mariposa Estate. Our cotemporary, who attempted to correct us, was also at fault, as will appear by comparing the remarks in the *Alta* of Monday last with the following, which we obtain from the final report of the Committee, appointed by all parties interested, to devise some plan for funding the liabilities of the company, etc.

In order to more fully understand the action of this committee, we will premise that on the 12th of November, 1858, a judgment was rendered against John C. Fremont, in favor of O'Campo, and a Sheriff's deed in due time given to parties purchasing under said judgment, but who subsequently transferred said deed to C. K. Garrison. Subsequently Garrison brought suit of ejectment against the company, and a compromise was finally effected, by which the company agreed to pay $320,000 (gold)—$120,000 of which was paid down, and a deed was given by Garrison to the company, to be held as an *escrow*, to take effect on the 22d of June last, if the balance of $200,000, with interest, as specified in the contract given at same date, was paid. If said balance was not paid, the company was to forfeit the amount already advanced.

One-eighth of this title had previously been deeded to Selover, and by him to the company—so that this eighth interest and the right to redeem was all that the Mariposa company owned in the Estate.

Mr. J. W. Brumagim, of this city, subsequently became the purchaser of this Garrison title to seven-eighths of the property.

The time for the settlement of this claim would have expired on the 22d of June, as stated in the *Alta;* but previous to that time, a committee of bondholders, already referred to, having been appointed and authorized to confer with Mr. J. W. Brumagim or his agent in New York and with the officers of the Mariposa Company, with the view of devising some plan for funding all the liabilities of the Estate and raising means to secure to the company this outstanding seven-eighths interest, had attended to that duty and matured a plan, which was formally accepted by the parties interested on the 4th of June last.

Under this plan of settlement, Mr. J. W. Brumagim's interest has been vested in a board of three Trustees, who will issue certificates to represent the entire indebtedness of the company. This Board consists of Messrs. Mark Brumagim and John A. Stewart, of New York, and Mr. John J. McEwen, of this city. These gentlemen have already taken possession of the Estate, and entered upon the discharge of their duties.

In consummating this arrangement, the claim of Mr. John W. Brumagim has been fixed at $300,000, the one-half of which is to be paid in cash from the first proceeds of the sales of the certificates, and to bear ten per cent. interest until paid. The other half is to be paid out of the first profits from the working of the mine, and is also to draw ten per cent. interest until paid.

After this claim has been paid off, the further profits of the mine, over and above necessary improvements, are to be applied to the payment of dividends on the certificates to be issued as above. Whenever the several claims against the company have been paid off, and the debts of the Mariposa Company so reduced as not to exceed $100,000, the Trustees are required to reconvey the property to the company. But if the Estate should fail to pay either the claim of Mr. Brumagim or the other indebtedness within the time specified in said deed of trust, provisions are made for a final closing out of the interest of the Mariposa Company in the property—the same to be sold for the benefit of the creditors, who are to receive the proceeds in the order or proportion of their several claims.

The certificates, as above, will be issued

only to the bondholders or other creditors of the Mariposa Company, or to the holders of preferred stock, in exchange for and upon the surrender to the Trustees of the bonds or other obligations of the company. The trust deed contains carefully prepared provisions as to the mode of issue and transfer of said certificates, payments of dividends thereon, etc. The certificates were ready for delivery in New York on the 5th of last month (June), at the company's office, 34 Wall street.

It is a matter of congratulation that the various conflicting views and interests of the several parties interested in this property have finally been arranged and harmonized. This matter has been brought about, in a great degree, through the efforts of Mark Brumagim, Esq., of New York, a brother of John W. Brumagim, of this city. That gentleman has, until recently, held the office of President of the Mariposa Company, and during his connection with this company to the present time, has ever enjoyed the unlimited confidence of stockholders, bondholders, and all other parties holding interest therein, either friendly or advorse to each other. As the chairman of the recently created Board of Trustees, it is his determination to revive the company, and, if possible, place it upon a substantial footing, to the end that it may start out on a career of prosperity and usefulness.

This property has heretofore been a very unfortunate one for most of the parties who have become interested in it, as well as for the county in which it is located, the business of which has often been thrown into confusion by the stoppage of work upon the Estate. It is peculiarly unfortunate, just at this time, that the company should suffer the loss of the destruction of one of their mills by fire (the Bear Valley Mill), as mentioned in our last issue; but we understand that it is the intention of the Trustees to allow no unnecessary delay in the reconstruction of the same. The new "Eureka Process," which has recently been introduced into that mill (the Lundgren pulverizers and Ryerson amalgamators), has already proved a most effective one, and fully settled the fact that rock can be obtained there which needs only a proper mode of reduction to return a large profit over working expenses and interest of investment. We sincerely hope that a new career of prosperity is in store for this valuable and extensive property, and that the time is not far off when the bondholders will begin to receive dividends on their investment.

We also understand that new mills are to be forthwith erected on the Merced, where an ample water power exists, and where unlimited quantities of good rock can be easily obtained from the Josephine and Pine Tree veins, and run directly upon inclines from the mines to the mills. The same process will be employed at their new works which has proven so satisfactory at the Bear Valley mill. The machinery is already on the ground, ready to be put in place as soon as the necessary preparations can be made. There is sufficient water power here to run 200 stamps.

Mexico still appears to be suffering from chronic discontent.

NORTH AMERICA

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Usual Restrictions on Occupation and Travel

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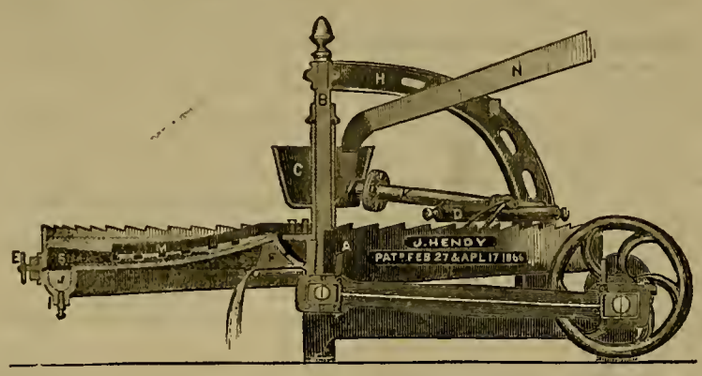
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20v1inr9p SAN FRANCISCO.

HENDY'S

LATEST IMPROVED PATENT SELF-DISCHARGING SULPHURETS CONCENTRATOR.



FOR GOLD AND SILVER ORES,

With Revolving Stirrers and Rotary Distributor.

Can be seen in operation at the Union Iron Works, corner of Mission and First streets. This machine is designed for saving finely divided Quicksilver, Amalgam and Gold from the sands, and for concentrating and saving the Sulphurets. Any person of ordinary experience with Quartz Mills can readily fit them up and run them.

Over 200 machines in successful operation in this State.

Those in want of Concentrators would do well to visit some of the quartz mills that have Hendy's Patent Concentrators in use, and satisfy themselves before purchasing other Concentrators of pretended merit. THEY ARE WARRANTED TO WORK SATISFACTORILY.

Directions for Operating Hendy's Concentrators:

The sulphurets are drawn off while the Concentrator is in motion, in the following manner:

First—In setting up, set the pan, A, level by the inner rim, near its center.

Second—While in operation, keep the Pan, A, about half full of sulphurets. [See Figure 2, marked S.]

Third—Open the gate, E, sufficiently to discharge the sulphurets as they accumulate over the amount above mentioned.

Fourth—The crank shaft to make 200 to 220 revolutions per minute.

References:

Reference is made to the following mills, which have HENDY'S CONCENTRATORS in use:

EMPIRE MILL. (8 Concentrators).....Grass Valley, Nevada County.
NORTH STAR M. & M. CO. (8 Concentrators).....Grass Valley, Nevada County.
NORRIDGEWOCK MILL. (2 Concentrators).....Grass Valley, Nevada County.
VALENTINE & CO., Commercial Mill (3 Concentrators).....Nevada County.
HUMBOLDT CANAL CO. (1 Concentrator).....Humboldt County, Nevada.
ROBINSON & McALLISTER M & M. CO. (3 Concentrators) Hunter's Valley, Mariposa County.
MIDAS MILL CO. (4 Concentrators).....Virginia, Montana.
GOULD & CURRY G. & S. M. CO. (4 Concentrators).....Virginia City, Nevada.
VULTURE CO. (8 Concentrators).....Prescott, Arizona.
NOYES & CO'S MILL. (2 Concentrators).....Prescott, Arizona.
LUCY MINING CO. (3 Concentrators).....Owyhee District, Idaho.
GUADALUPE & SACRAMENTO G. & S. M. CO.....Sinaloa, Mexico.
EL TASTE CO. (2 Concentrators).....Sonora, Mexico.
B. F. BROWN (1 Concentrator).....Melbourne, Australia.
JAMES HENTY & CO. (1 Concentrator).....Melbourne, Australia.

And in use in many other parts of this coast.

The following give additional proof of the increasing popularity of the machine:

San Francisco, October 10th, 1867.

J. Hendy, Esq.—*Dear Sir:*—To your request for an expression, in writing, of my opinion in regard to the merits of your Concentrator, I reply, that I consider it the best machine for saving quicksilver and amalgam, and for concentrating sulphurets, that I have ever used, or seen used. I may add, that I could give you no stronger proof of this than to order, as I did, six more of them, after a trial of one for several months. I shall take pleasure in showing the machine in operation to any one interested, who will call at the mill of the Empire Company, in Grass Valley. Yours,

S. W. LEE, Supt.

North Star Mine, Grass Valley, Feb. 26, 1868.

J. Hendy, Esq—*Dear Sir:*— In answer to your request, I give my opinion in regard to the eight Concentrators we have at work. We have had one at work on blanket washings for the past three months, and it has proved highly satisfactory in saving sulphurets and amalgam, that in past years we have been losing. Of the other seven, six are taking the pulp from the batteries, and the remaining one concentrating from the six, which, when thus reconcentrated, yield 95 per cent. of pure sulphurets.

Respectfully, etc. W. H. RODDA, Supt.

An Additional call for Hendy's Concentrators

Has just been complied with, and the machines shipped to Grass Valley, Nevada Co., Cal., viz: One machine for the Empire Company, and two for the North Star. Hendy's Concentrators have been in constant use in these mills for more than eight months, and these orders completed a set of ten machines for each mill. The North Star Company have just added eight new stamps to their machinery.

Four Concentrators have been forwarded to the Vulture mine, in Arizona, which makes eight for that mill. The additional order for four machines was made after a thorough trial, which proved their superiority over all others. [See Mining and Scientific Press of Dec. 14th.]

CAUTION.

All of HENDY'S PATENT CONCENTRATORS are marked thus:

"J. HENDY, Patented April 17th, 1866, and May, 15th, 1868.,"

Orders or letters of enquiry, address,

JOSHUA HENDY, Patentee,

June, 1868. Union Foundry, San Francisco.

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☞ FIRE AND MARINE INSURANCE. 10v1419pqr

Support Home Manufactures.

California Pioneer Fuse

MANUFACTURING COMPANY,

MANUFACTURERS OF

HOSE AND TAPE FUSE,

A New and Superior Article for Blasting in very wet ground, or under water.

Great difficulty has heretofore been experienced by miners, and others in the use of Fuse, which has been subjected to deterioration from exposure to dampness during transportation, or during the great length of time which has passed between its manufacture and use. In addition to great painstaking in the manufacture of the California-made Fuse, the above and many similar objections are entirely obviated, and the operator can always depend with certainty upon the burning of his fuse.

It is often the case that extra lengths are required, as exploding tunnels, etc., longer than is furnished in the imported article. Fuse of every desired length or size can be made to especial order, at the above manufactory.

Manufactory, - - - - Potrero, San Francisco.

JOS. POWNING, Sec'y. JAS. EVA, Supt.

17v16-9ptf

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Rolling Mill and Forge Co.,

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RAILROAD AND OTHER IRON

—AND—

Every Variety of Shafting,

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Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames

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Having returned to Yuba County, Cal., after an absence of several years in the State of Nevada and the Eastern States, will attend to all business in his line in this State, or the State of Nevada, or adjoining Territories.

All orders will be attended to with dispatch, and satisfaction given.

REFERENCES:

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Col. N. E. Whiteside, Marysville.
Judge Filkins, "
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Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

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WITH PALMER'S PATENT STEAM CHEST.

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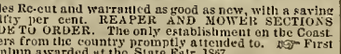
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Orders promptly attended to. Prices as low as possible for first-class work, and we intend to do no other.

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House Fronts, Sash Weights,

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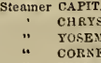
Having this day dissolved partnership with G A. Walker, the business will hereafter be conducted in the name of the undersigned.

☞All orders promptly attended to.

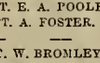
MARTIN T. MEAD.

July 16, 1868. 3v17-1m

California Steam Navigation



COMPANY.



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The Use of Powder in Placer Mining.

In the Smartsville Blue Gravel claim, at Sucker Flat, in Yuba county, powder is used more extensively than in any other hydraulic claim, indeed, probably more than in any other mine in California. All the strata are too hard to be piped down with economy, and some of them are so hard in places that the pipe would scarcely effect them. So much powder has been used here that its employment is reduced to a system. The quantity of powder for the blast depends upon the depth of the bank and the surface area to be loosened. If the bank is 50 feet deep a tunnel 4½ feet high and 2½ wide may be run in 75 feet; a cross-drift 60 feet long is cut across the end at right angles, and another similiar cross-drift of equal length 55 feet from the mouth of the tunnel. Three hundred kegs may be used in such a blast, all distributed along in the cross-drifts and in the tunnel beyond the first cross-drift. Twenty kegs near the intersection are opened by taking out the heads; the others are left closed, with the certainty that they will all be opened by the explosion of the 20. From the intersection to within 10 feet of the mouth wooden troughs two inches wide and deep inside are laid, and a liberal supply of powder is poured in, leading to an open keg. The 10 feet next the mouth are laid carefully with a fuse, and for that distance the tunnel is filled in with dirt. When the blast is fired a dull, heavy sound is heard, the ground rising slowly about 10 feet; it then settles down, leaving a dust behind it, and on examination an area about 120 feet square will be found all shattered.

By blasting, the water is enabled to carry off twice as much dirt as otherwise; and as 500 inches of water are used at an expense of $75 per day, there is a vast saving. The cost of powder is large, as about 10,000 pounds are consumed monthly on an average in this one claim. After the ground has been blown the pipes can bring down more than they can carry away, so about one-third of the water is allowed to run down over the bank, while the remainder is thrown through the pipes.—*Ross Browne's Report.*

WHO SHOULD COME TO THE CITY—WHO GO AWAY.—Horace Greeley says: "There is a class of country-bred persons who can, sometimes, do well in a great city, almost from the day they enter it. This is the class of thoroughly capable, energetic, temperate, thrifty mechanics, who have not yet married. Any one of these may drop into the city, in March or April, of any prosperous year, when work abounds and everything is thriving, and find employment at good wages, of which he may save half, if he will. True, his expenses will overtake his income if he stays here until surrounded by a swarm of children; but why *should* he stay here so long? If he develop qualities which insure him a leading position and a liberal income, he can well afford to stay; if not, let him be off in season to have his children country-born. To rear sons and daughters in narrow, crowded city quarters, on the stinted allowance of a mere journeyman or laboror, is not to treat them fairly. Give them air to breathe, hills to roam over, and woods to frequent, so that they shall grow up in health and vigor. The city is hard enough on the poor man; it is entirely *too* hard on the poor man's children."

ESTIMATION OF THE QUALITY OF SOAP. The quality of soap may be properly estimated from the amount of fatty acids which any given specimen contains. The following simple analysis may be performed by any one, and may be relied upon as giving good results:

The soap to be examined should be dissolved in water. If distilled water cannot be readily obtained, rain water will answer well enough. When a perfect solution is obtained, add hydrochloric acid. After a little while the fatty acids will be found to be separated from the other constituents of the soap. These should be collected, and their relative weight for any given quantity estimated. The relative weight thus found will be a sufficiently just indication of the quality of the soap.

VERY PROPER.—Hon. Henry Wilson has reported an appropriate joint resolution that all officers or privates who served in the armies of the Union during the war should on occasions of state and ceremony, wear the badge of their corps or division. Nothing could be more proper than to revive on all proper occasions the honorable and glorious associations connected with the War for the Union.

BRIDGE AT ST. LOUIS OF FIVE HUNDRED FEET SPAN.—J. B. Eads, a prominent civil engineer, recently wrote a lengthy report to demonstrate the practicability of building a bridge over the Mississippi River at St. Louis, with spans of 500 feet. He argues that it is possible to throw an arch of cast steel, 2,000 feet long, across that river. If we are not mistaken, the largest bridge-span ever constructed is the main truss span in the Knilinbnrg bridge, in Holland, which is 515 feet long, and sustains a double railway track.

We notice by the telegraphic dispatches of Tuesday of last week, that a bill passed the Senate at Washington the day previous, "authorizing the construction of a bridge, with 500 feet span, over the Mississippi at St. Louis"; from which we infer that the recommendation of the engineer, Eads, has been favorably considered by the company in whose interest he is engaged.

THE NEW YORK UNDERGROUND RAILWAY Co. has been chartered with a capital of $10,000,000; the company to deposit $300,000 by Jan. 1st, 1869, which sum will be forfeited to the sinking fund of the city, if the tunnel and track is not completed within five years. The track is to be laid as near as possible between the main carriage ways connecting the northern and southern portions of Manhattan Island. It will commence at a designated point in the City Hall Park. The tolls cannot exceed six cents for passengers for a distance of six miles, and for any mile addition or fraction thereof—two cents. It may safely be predicted that the New York underground railroad will soon be a reality. Of its convenience and value to the city there can be no doubt; nor of its ultimate value in a pecuniary light.

CHEAP TRAVELING.—The fare from New York to Boston, by boat and rail, which was formerly as high as $10, has recently been reduced by opposition to $1.

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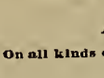
The Hoosac Tunnel.—Much opposition has been brought to bear against any further expenditure by the State of Massachusetts on the Hoosac tunnel; but the late Legislature has finally placed its completion beyond the possibility of any farther interference, by authorizing a contract with any responsible party who will complete it in seven years, and making an appropriation of $5,000,000 therefor. It will soon be placed under contract. Something like $3,000,000 have already been expended in this work, which, however, includes forty-four miles of railway, renting for $55,000, which will be opened this summer. A Boston paper of recent date says that for the three months ending May 30th, 1868, the several sections of the Hoosac Tunnel have advanced 759 feet, or at the rate of 3,036 feet per year. At this rate of progress the tunnel will be opened in about five years and a half, as but two-thirds of the original length, or 16,800 feet, remains to be perforated. It is said that the present style of drill, which was described and illustrated in the Mining and Scientific Press, April 4th, 1868, has more than doubled the rate of progress in this tunnel. The latter fact is especially worthy of notice by those engaged in extensive mining operations in this State.

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I PROMISE TO CURE RHEUMATISM, NEURALGIA, Gout in the Feet or Ankles, Dyspepsia, Piles, Mange, Bone Felon, and all kinds of Sores, in men or animals, and no matter of how long standing. Also, Heart Disease, Sore Eyes, Sore Throat, Scrofula, Salt Rheum, and all Skin Diseases. Secret Diseases of all kinds cured. DR. JAMES BROWN, No 340 Broadway, between Sansome and Montgomery streets, San Francisco.
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SUPERIOR BLASTING AND SPORTING GUNPOWDER!
Black Diamond, in 1lb canisters.
do do in ½lb canisters.
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Blasting and Mining Powder $2 50 per keg.
Safety Fuse and Shot for sale by
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Patent Steel Horse Shoes.
A New Invention.
Just received, an invoice of these UNRIVALLED SHOES, warranted to be entirely of the best
BESSEMER STEEL.
This Shoe has just been introduced in Ohio and Kentucky, where it is highly appreciated, and is also coming into general use in other Atlantic States.
For sale by
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BANK OF SAVINGS,
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On the **6th, 14th, 22d** and **30th** of every month.
Steamer leaving San Francisco on the 6th touches at Manzanillo. All touch at Acapulco.
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STEAMERS FOR JULY, 1868.
The following Steamships will be dispatched on dates as given below :
July 6th—MONTANA.....Capt. J. M Cavarly, Connecting with HENRY CHAUNCEY, Capt. Gray.
July 14th—CONSTITUTION.....Capt. C. C. Comstock, Connecting with OCEAN QUEEN, Capt. King.
July 22d—GOLDEN CITY..... Capt. Wm. F. Lapidge, Connecting with RISING STAR, Capt. Conner.
July 30th—GOLDEN AGE.....Capt. E. S. Farnsworth, Connecting with ARIZONA, Capt. Maury.
Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult.
An experienced Surgeon on board. Medicine and attendance free.
These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.
Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—if desired an amount of £10 to £20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England.
The Steamship NEW YORK, Capt. C. M Fauntleroy, will be dispatched on FRIDAY, July 3d, at 12 o'clock, noon, from wharf, corner of First and Brannan streets, for YOKOHAMA, to connect with the GREAT REPUBLIC for HONGKONG, and COSTA RICA for SHANGHAI.
For Merchandise and Freight for New York and way ports, apply to Messrs. WELLS, FARGO & CO.
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Pamphlet containing the Law and the Instructions of the General Land Commissioner, post paid, 25 cts. Address DEWEY & CO., Mining and Scientific Press, San Francisco.

Postmasters are requested to punctually inform us of the removal of subscribers of the Press from their locality, or of neglect to take the paper out of the office from any cause—when the subscriber omits that duty himself. It is not our intention to send this journal to any party longer than it is desired. If we inadvertently do so, subscribers and others will please inform us.

The Mining and Scientific Press has entered upon its XVIIth Volume. It has donned a new-style hat; or, in newspaper parlance, a new heading, which gives it the solid, scientific look it merits. Other improvements typographical are also noticeable. No call for improvement in its matter.—*Amador Ledger, July 18th.*

Mechanics' Institute Fair.

CLASSIFICATION OF GOODS.

The goods and manufactures to be exhibited are divided into thirty classes, which are as follows:

CLASS 1. *Steam Engines* — Comprising stationary, marine and fire engines and locomotives; also, boilers and improvements thereon. *Motive Powers*—Comprising air engines, electric engines, and all motive powers, such as turbines, water wheels, windmills, etc.

CLASS 2. *Manufacturing Machinery* — Comprising machinery used in working metals, machinery for working wood, as sawmills, planing machines, mortising machines, scroll saws, lathes, etc.; agricultural machinery and implements.

CLASS. 3. *Mining Machinery*—Comprising machinery used for mining, tunneling and metallurgical processes, crushers, stamps, grinders, and other pulverizing machines, amalgamators, concentrators, pumps, hose pipes, nozzles, couplings, etc.; furnaces for roasting ores, apparatus for burning petroleum, as steam fuel, etc.

CLASS 4. *Naval Architecture*—Comprising ships of war and commerce (models) boats, barges, and vessels for amusements; tackle, rigging and general improvements, including all kinds of metallic and hemp cordage.

CLASS 5. *Military Engineering*—Comprising military engineering, armor accoutrements and ordnances, small fire arms, tents and camp equipages, etc.; gunpowder and other explosive compounds, matches and fireworks.

CLASS 6. *Civil Engineering and Architecture*—Comprising engineering, architectural and other building contrivances, sanitary and other improvements, architectural and railroad bridge drawings.

CLASS 7. *Philosophical, Dental and Surgical Instruments*—Philosophical and other instruments, and the processes in which they are used; mathematical instruments and balances; surgical, nautical and dental instruments; dentistry in all its branches; engineering instruments.

CLASS 8. *Steel and Iron Manufactures*—Plain and ornamental castings, including stoves, wrought iron work, shutters, and general blacksmith work; tools, bardware, cutlery, and edge tools; locks and keys, and other fastenings; wire work, *Brass, Copper, Tin, Lead, and Cosmopolitan Manufactures*—Castings of brass, tin, lead, or other metals and compositions; brass finishing work, copper stills, worms, pipes, and general work; lead pipes, sheet lead, and shot; plumbing, gas-fitting, and tin ware.

CLASS 9. *Glass, Pottery, and Clayware*—Comprising all articles made from glass or clay, glass blowing, cutting and coloring, common pottery, stoneware, crockery and porcelain; fire brick and fire-proof ware; common and pressed brick, and tiles; cement.

CLASS 10. *Wood and Wood Work*—Comprising native and foroign wood, sawed timber, or lumber and its uses; house carpenter's and joiner's work, scrolling, turning, molding, and carving. *Cooperage and Wooden Ware*—Comprisiug manufactures of casks, barrels, kegs, tubs, pails, etc.; brushes and willow ware.

CLASS 11. *Minerals* — Comprising all classes of minerals and mineral substances, coal, etc.

CLASS 12. *Chemistry and Chemical Substances*—Comprising all chemical and pharmaceutical manufactures, as alkslies, acids, and all other manufactures and processes; pharmaceutical substances, and processes of production.

CLASS 13. *Jewelry, Silver, and Plated Ware*, made of precious metals and imitations, diamonds, and other precious stones; lapidary work; bair jewelry; plated ware, and galvano-plastic; india-rubber jewelry and its imitations.

CLASS 14. *Lithography, Engraving, Printing, Book-Binding and Paper*—Comprising the art of lithography, and materials used, also engraving; ornamental and other printing; book-binding in all its branches; ornamental boxes and works made of papier-machc; printing materials, and processes used in printing and binding; psper of all varieties made; ponmanship.

CLASS 15. *Carriages and Wagons*—Comprising all manufactures of carriages and wagons known.

CLASS 16. *Leather and Leather Work*—Comprising barness and saddlcry, boots and shoes, hose, trunks, valises, carpet bags, leatber manufactured of every variety, leathcr buckets and fire caps.

CLASS 17. *Sign, House, and Carriage Painting*—Comprising sign, wood, glass, and house painting; graining in imitation of wood or marble; staining and wood polishing; block letters, and engraved signs on metal.

CLASS 18. *Furniture, Billiard Tables, Desks and Show Cases, and Upholstery*—Including plain and ornamental furniture, inlaid work, school furniture, and desks and show cases; billiard balls, and all work for amusements.

CLASS 19. *Stone Cutting and Marble Work*—Comprising all classes of work produced from natural and imitation stone, marble, plain and ornamental work; emery, polishing powders, etc.

Sculpture in Stone and Plaster of works of art, and ornaments in stono or plaster of paris; castings.

CLASS 20. *Oil, Soap and Candles* — Comprising oil, soap and candles, and substances from which these articles aro made; whale, lard, sperm, and other animal or fat oils; linseed, olive, mustard, castor, and other dry or vegetable oils; turpentiue, tar, pitch, resin, candles, soap, common and toilet, petroleum oils, paints and colors.

CLASS 21. *Painting and Drawing*, in oil and water colors, including landscape, portrait and mariue painting. *Photography*—Photographic views aud apparatus, photographic materials and processes of improvements, all kinds of plain, retouched and colored photographs, etc.

CLASS 22. *Musical Instruments*—Including all instruments made of metal, wood, or other materials.

CLASS 23. *Woolen Manufactures*—Comprising all articles made of wool and mixed materials, knit goods, etc. *Cotton Manufactures*—Comprising all varietics of cotton goods.

CLASS 24. *Furs, Clothing, Hats and Caps* Comprising every variety of furs, men's and boy's clothing; all kinds of hats and caps not made of leather.

CLASS 25. *Silk and its Manufacture*—Exhibits of California silk, and articles made therefrom; silkworms and culture.

CLASS 26. *Sewing Machines and Needlework*—Sewing machines and improvements thereon, and skillful work done on same; dressmaking, millinery, and fancy goods. (For sewing machines, no premiums.)

CLASS 27. *California Wines and Brandies*—also, native and foreign and other distilled spirits and malt liquors; bitters, syrups, cordials, essences, punches and mixed liquors.

CLASS 28. *Horticulture, Agriculture, etc.* Comprising exhibitions of flowers, plants, agricultural products, fruits and vegetables, butter and cheese, and agricultural implements.

CLASS 29. *Substances Used for Food*—Comprising natural and manufactured products, flour, wheat, grain, and seeds; bread and crackers, fresh and dry; maccaroni and paste; spices, mustard, coffee, preserved meats, fish, fruits, preserves, vegetables, pickles, and vinegar; sugar, candy, syrups, etc.

CLASS 30. *Miscellaneous.*

RAILROADS OVER RIVERS.—John A. Roebling, the well known engineer, says that instead of draw bridges for crossing our western rivers, as is demanded by railroad men, the public should insist upon treating railroad bridges, where a large river traffic exists, as inclined planes, with a stationary engine and wire rope to help the trains over. The idea appears to be a good one.

RAPID PROPAGATION OF CEREALS.—In three years a farmer iu the Isle of Man raised seven bushels of barley from a single grain.

THE MECHANICS' INSTITUTE

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MANAGERS OF THE FAIR.—The list of Officers above enumerated constitute the Board of Managers of the Sixth Industrial Fair of 1868.

INCREASE OF POPULATION.—San Francisco, at the present time, is increasing in population at an almost unprecedented rate, owing msinly to the radical change in ocean transit rates, and the favorable ideas which have been formed abroad, of the resources of this State, by reason of the rapid increase in the value of our export prodnctions, other than bullion. The port statistics for the six months onding June 30th, show a net increase to our population of 20,819 against an increase of only 8,000 for the correspouding period of last year. Fully one-half of that number may be set down as a permsnent increase to the population of this city.

New Mining Advertisements.

Gold Hill Tunneling Gold and Silver Mining Company.—Location: Gold Hill Mining District, County of Storey, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of July, 1868, an assessment (No. 10) of two dollars per share was levied upon the capital stock of said Company, pay able immediately, in United States gold coin, to the Secretary, R. Wegener, 414 California street, San Francisco, Cal., or to the Superintendent, H. Huguet, Gold Hill, Nevada.

Any stock upon which said assessment shall remain unpaid on the twenty-first day of August, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the ninth day of September, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. WEGENER, Secretary.

Office, 414 California street, San Francisco. jy25

Mining Notices--Continued.

Apollo Gold and Silver Mining Company, Lander County, Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the fifteenth day of June, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
C N Light	21	93/4	$93 75
Fred Lepplen	96	12 3/4	175 00
Geo F Sharp	53	6	60 00
H P Hildreth	115	11	110 00
Mrs B A Aud	124	47 21-32	476 56
Jacob Bartz	123	13	130 00
A A Raud	135	1090 15-32	10904 00

And in accordance with law, and an order of the Board of Trustees, made on the fifteenth day of June, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, by Jones & Bendixen, auctioneers, on the third day of August, 1868, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

D. H. CROWE, Secretary.

Office, No. 228 Clay street San Francisco. jy18

Adriatic Gold and Silver Mining Company, Flowery District, Storey County, Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the twentieth day of May, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificates.	No. Shares.	Amount.
M J Newmark	507	30	$30 00
Daniel Meyer	98	50	50 00
Daniel Meyer	251	35	35 00
N Ludwig	114	10	10 00
Thomas S Russel	190	10	10 00
Estate of Henry Dreschfeld	302	176	176 00
Estate of Henry Dreschfeld	324	25	25 00
Estate of Henry Dreschfeld	393	5	5 00
Estate of Henry Dreschfeld	427	61	61 00
Estate of Henry Dreschfeld	466	50	50 00
Edward Cohn	459	25	25 00
J L Schroeder	428	75	75 00
L Rosenbaum	503	223	222 00
H Schmidt	492	5	5 00
H Schmidt	493	5	5 00
H Schmidt	494	10	10 00
J J Robbins	489	10	10 00
J J Robbins	490	10	10 00
J J Robbins	506	5	5 00
J S Burgess	513	50	50 00
M Waterman	509	30	30 00
R W Kind	440	5	5 00
R W Kind	441	10	10 00
R W Kind	479	10	10 00
Jas Adelsdorfer	224	15	15 00
B Gattel	352	10	10 00
B Gattel	359	10	10 00
B Gattel	360	10	10 00
B Gatte	538	10	10 00

And in accordance with law, and an order of the Board of Trustees, made on the twentieth day of May, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on the sixteenth day of July, 1868, at the hour of 12 o'clock A. M. of said day, for cash, in U. S. gold coin, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

PAUL NEUMANN, Secretary.

Office, No. 411 California street. jy1

POSTPONEMENT.—The above sale is hereby postponed until Friday, the thirty-first day of July, 1868, at the same hour and place. By order of the Board of Trustees.

PAUL NEUMANN, Secretary.

San Francisco, July 14, 1868. jy18

Bear River Mining Company, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the tenth day of June, 1868, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the fifteenth day of July, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the third (3d) day of August, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINOTON, Secretary.

Office, Room 37 New Merchants' Exchange, California street, San Francisco. jc13

POSTPONEMENT.—The day for deeming stock delinquent on the above assessment is hereby postponed until the twenty ninth day of July 1868, and the sale thereof until Monday, the seventeenth day of August, 1868. By order of the Board of Trustees.

jy18 J. M. BUFFINGTON, Secretary.

Chipioneta Mining Company—District of Ures, Sonora, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the ninth day of July, 1868, an assessment of five ($5) dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirteenth day of August, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirty-first day of August, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary.

Office, 318 California street, up-stairs, San Francisco. jy11

Eclipse Gold and Silver Mining Company, Lander County, Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the fifteenth (15th) day of June, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
C E McLane	143	10	$100 00
C E McLane	144	10	100 00
C E McLane	145	5	50 00
A A Rand	151	1535	15,350 00
J H Foster	5	1	10 00

And in accordance with law, and an order of the Board of Trustees, made on the fifteenth (15th) day of June, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, by Jones & Bendixen, auctioneers, on the third day of August, 1868, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. A. BRINKHOUSE, Secretary.

Office, 223 Clay street. jy18

Senator Silver Mining Company.—Location of Mine: Storey County, State of Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the ninth (9th) day of June, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amonnt.
Blake, Wm	not issued	30	$3 00
Blake, John F	not issued	15	1 50
Barry, Robert	not issued	30	3 00
Corcoran, Wm	not issued	320	32 00
Corbett, John	not issued	60	5 00
McCann, A	not issued	15	1 50
Murphy, John	not issued	150	15 00
McMahon, J M	not issued	15	1 50
Neagle, Wm	not issued	1688	168 80
Neagle, Wm	13	45	4 50
Sumner, Mrs. Kate	not issued	30	3 00
Shiel, Michael	not issued	30	3 00
Stohr, F	not issued	15	1 50

And in accordance with law, and an order of the Board of Trustees, made on the ninth (9th) day of June, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on the thirty-first day of July, 1868, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office, 408 California street, San Francisco. jy18

Siempre Viva Gold and Silver Mining Company, District of Zaragoza, Sinaloa, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifteenth day of June, 1868, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, 318 California street, up stairs, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirty-first (31st) day of July, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the seventeenth day of August, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary

Office, 318 California street, Up stairs, San Francisco, California jy4

Caution!

Whitman Gold and Silver Mining Company.

Location of Works: Indian Springs District, Lyon County, Nevada.

Notice is hereby given, that the following named shares in the capital stock of the Whitman Gold and Silver Mining Company, designated by the number of certificate of each parcel of said stock, were sold as by law provided, at public auction, on the fifteenth day of July, 1868, for delinquent assessment thereon, and will not be transferred by said Company:

No. Certificate	101	No. Shares		5
" "	245	" "		30
" "	259	" "		15
" "	268	" "		15
" "	269	" "		20

T. W. COLBURN, Secretary,
Whitman O. & S. M. Co.

San Francisco, July 16, 1868. jy18

Yosemite Consolidated Mining Company.—Location of Works: Santa Fe District, Lander County, Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the ninth day of June, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Bowie, G W	177	100	$75 00
Brandow, Peter	181	101	75 00
Brandow, Peter	182	110	82 50
Gillis, Joseph	181	40	30 00
Guysi, Chas F	178	100	75 00
Hawk, Nathan	179	20	15 00
Mathews, Amos	55	25	18 75
Mathews, Amos	56	25	18 75
Mathews, John	180	10	7 50
Mayes, George	170	11	7 50
Spence, Wm A	169	15	11 25

And in accordance with law, and an order of the Board of Trustees, made on the ninth (9th) day of June, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., No. 327 Montgomery street, San Francisco, on Wednesday, the fifth day of August, 1868, at the hour of 12 o'clock, noon, of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

DAVID WILDER, Secretary.

Office, No. 533 Kearny street, corner of Sacramento street, San Francisco, Cal. Office hours from 12 to 2 P. M. jy18

Postponements and Alterations.—Secretaries are requested to give notice of postponements, or alteration which they may desire made in their advertisements at their earliest convenience. New advertisements should be handed in as early as possible.

Machinery.

VARNEY'S
PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Settlers made on the same principle excel all others.—They bring the pulp so consantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the **PACIFIC FOUNDRY,**

1v1 San Francisco.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—AT—

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077

3v13f SAN FRANCISCO.

Notice to Miners,
Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG,

8v13-1y Stove Store, No. 125 Clay street, below Davis.



REMOVAL.

E. O. HUNT'S

Manufactory of

Windmills, Horse-Powers and Pumps,

Has been removed from the old stand on Second street, to

114 and 116 Spear st.,

Next above Stuart and south of Mission st., San Francisco.

Hunt's Patent Wind-Mills, Tread Horse-Powers, Sweep Horse-Powers, (for one or four horses), Sawing Machines, Pumps of all kinds for shallow or deep wells,—including Hunt's Submerged Pump, Hunt's Globe Pump, and Hunt's Single and Double-Acting Pump.

Pumping Machines and general Machinery kept constantly on hand and built to order.

Also, Water Tanks of all sizes.

Having put up large new buildings specially for my business, with greatly increased facilities in the way of room and steam power, I shall be able to build everything in my line at greatly reduced rates.

All desirous of procuring water for irrigating or other purposes, are invited to examine my articles before purchasing elsewhere.

23v16 **E. O. HUNT, Proprietor.**

OIL STOVES!

MORRILL'S

Petroleum and Universal Oil Stoves

Have proved themselves a superior substitute for Wood and Coal Stoves, in that they work quicker, are neater, bake and broil better, are MORE ECONOMICAL generally. They are portable, can be used in any room, with or without chimney, as they emit no smoke, soot or ashes. There are nine different sizes, designed for barbers, dentists, and other mechanical purposes—as well as for cooking. They are perfectly safe.

I now offer a reward of **$100** for every Petroleum Stove exploded by Naphtha delivered at my store, 18 Geary street, where they are for sale by

M. B. BULLARD,

Proprietor of Petroleum Stove for California, and Agent for Universal Oil Stove for Pacific Coast.

N. B.—Petroleum Stoves burn Naphtha converted into a gas. Universal Oil Stoves burn Naphtha, Benzine, or Coal Oil, with non-illuminating flame and light on a wick as easy as a lamp. 21v16 3m

OILS! OILS! OILS!

MACHINE OILS OF ALL GRADES,

Pure Lard Oil,

SPERM OIL, PARAFFINE OIL, Etc., Etc.

EXCELSIOR MACHINE OIL,

The Best in use.

A. C. DIETZ & CO., Sole Agents

319 and 321 Front street, San Francisco.

22v16-3m

Fire-Brick and Fire-Tile.

THE UNDERSIGNED KEEPS ON HAND A GENERAL assortment of Fire-Brick, Fire-Clay, Brick Dust, and Tiles of different sizes LIME, PLASTER AND CEMENT. Corner of Market and First streets, San Francisco. Branch Store, Sixth street, Sacramento. Millmen and Gas Companies supplied at short notice.

7v16 6m **H. T. HOLMES.**

Fire, Hose and Machine Belting.

THE SUBSCRIBER CONTINUES TO MANUFACTURE Oak Tanned Leather Fire Hose, warranted superior to Eastern Hose, manufactured at the Sixth Street Tannery, San Francisco.

21v16tf JOHN J. FULTON.

GLASGOW
Iron and Metal Importing Company,

Nos. 25 and 27 Fremont street,

SAN FRANCISCO,

Keep constantly on hand a large stock of best Bar and Ruudle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings, which they offer to the trade on liberal terms.

21v16-3m W. McKINDLE, Manage.

NELSON & DOBLE,

AGENTS FOR

Thomas Firth & Sons' Cast Steel, Files,

Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks,

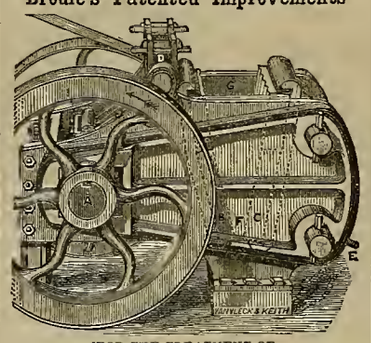
Stone Cutters', Blacksmiths' and Horse-Shoers' Tools,

319 and 321 Pine Street,

Between Montgomery and Sansome, San Francisco.

1ov14qr

Brodie's Patented Improvements



FOR THE TREATMENT OF

Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:

No. 1—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price.....$600

No. 2—Or 15 inch Crusher, capable of similarly putting through five to six tons per hour.....$50

No. 3—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour..... 1,200

These Crushers have been erected at several mines in the State of Nevada, and others in Calaveras, Tuolumne and Mariposa counties, to whom applicants can be referred as being the most efficient, cheapest, and least weight compatible with strength and durability, of any Crusher yet erected.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Farther particulars will be afforded on application to the subscribers.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.

JAMES BRODIE, Fulton Foundry, or

12v13tf CHARLES RADCLIFF, Express Building, 402 Montgomery street, San Francisco.

C. F. TRAVIS,



Manufacturer of

FRENCH

BURR

Mill-Stones,

AND

PORTABLE

MILLS.

Agent for

Dufour & Co's

Celebrated

DUTCH ANCHOR BOLTING CLOTHS.

Mill Picks, Mill Picks Dressed, Mill-Stones Repaired and Rebuilt; Mill Stones Balanced, with Fellenbaum's Patent Balance, of which I am sole Proprietor for California, Oregon, and Washington Territory. C. F. TRAVIS.

5v16tf 109 Mission street, San Francisco.

ROBERT BRAGG,



STEERING WHEELS

ON HAND AND MADE TO ORDER.

JOB WORK done to order, at the shortest notice. Main street, between Folsom and Harrison,

23v16-3m San Francisco.





Pipe Vise, with or without Extra Jaw.

Standard Milling Machine.

UNION VISE COMPANY,

OF BOSTON,

Make Vises of all sizes and kinds, for Machinists, Blacksmiths, and all other heavy mechanical work. Wood-workers' and other Vices, with Covered Screw, for general mechanical work. Standard Milling Machines very simple and easily adjusted. Address, Boston, Mass. 25v16-1y

Belting and Lacing.

AN ENTIRELY NEW AND SUPERIOR ARTICLE OF exclusively mechanical preparation, made to order on short notice, and for sale by H. ROYER, at 435 Brannan street, between Third and Fourth. Refers to Eisen Bros., Pioneer Mills; Martin Steen, National Mills; Horace Davis, Golden Gate Mills; also, N. W. Spaulding, Saw Manufacturer. 6v16-3m



THE FLORENCE

RECEIVED THE HIGHEST PREMIUMS

At all the most important Fairs held in the United States in the year 1867. Gold Medals at the American Institute Fair, New York; Mechanics' Association Fair, Lowell; Maryland Institute Fair, Baltimore. Highest Premium at the New York State Fair, Buffalo, and at the Great New England Fair, Providence. At the Fairs held on the Pacific Coast, this machine has taken

Every First Premium

Awarded on Family Sewing Machines in the LAST FIVE YEARS. If there is a Florence Machine within one thousand miles of San Francisco, that is not giving entire satisfaction, if I am informed of it, it will be attended to without express charge or expense of any kind to the owner.

SAMUEL HILL, Agent.

11v16-4m 111 Montgomery street, San Francisco.

WE ARE NOW OFFERING
OUR IMMENSE STOCK

—OF—

Fine Custom Made Clothing

—AND—

Gents' Furnishing Goods

AT PRICES THAT DEFY COMPETITION.

Our Stock of Clothing Consists of

ALL THE LATEST STYLES

BOTH OF MATERIAL AND FINISH.

A Large Assortment of

Trunks, Valises, Carpet Bags, Blankets, Etc.,

AT EXTREMELY LOW PRICES.

J. R. MEAD & CO.,

8v10 Cor. of Washington and Sansome streets.

LOUIS FALKENAU (State Assayer). H. G. HANKS.

Pacific Chemical Works.

Office 619 Montgomery Street,

SAN FRANCISCO,

Laboratory, Sixteenth street, near Folsom.

FALKENAU & HANKS,

Manufacturing and Consulting Chemists.

Particular attention given to the Analysis of Ores, Minerals, Metallurgical Products, Mineral Waters, Soils, Commercial Articles, etc.



STOVES

AND

TIN WARE,

WOODEN WA

WILLOW

WARE,

BIRD CAGES,

Etc., Etc.



Lock's Patent Self-Lighting Gas-Burners, by

GEO. H. CHICK,

At 834 Market street, San Francisco.

24v16-3m

SULPHURETS;

What they are;
How Assayed;
How Concentrated;
And How Worked;

With a Chapter on the

BLOW-PIPE ASSAY OF MINERALS.

By WM. BARSTOW, M. D.

Published by A. Roman & Co., San Francisco.

For sale at this Office.--Price, One Dollar.

With the aid of this Book, the miner can assay his own ores, requiring but few materials, etc., except such as are generally to be found in the interior towns. 21v15tf

Economy in Advertising.—The MINING AND SCIENTIFIC PRESS is the best and most ECONOMICAL mining advertising medium in this city. Our terms are less than ONE HALF the rates now charged by daily newspapers, and the mining community are beginning to appreciate our reasonable rates of advertising. The PRESS contains, proportionally a larger amount of mining advertising than any other paper on the Pacific coast. Its character renders it the proper journal for [illegible] mining advertising.

Rules to Discover the Lost Part of a Shifted Vein.

The following "rules" may often be found of much benefit in the early stages of many mining operations:

Faults or shifts often occur where two veins traverse each other. The one which keeps its direction at the point of crossing (strike) must be the newer or younger, as fills a fissure in the other. When such a dislocation is met with in drifting or sinking on a lode, it is of the greatest importance to know on which side, or whether above or below, the shifted part of the main vein has to be sought.

The following four rules were given by J. C. L. Schmidt, and are here translated from his work:

"1st. If vertical veins are severed by other veins, the former are not shifted, but continue their course in the same line with the latter. (This is called a "tourn-house" by the miners.

2d. If slanting veins, dipping at an angle less than ninety degrees, are bisected by vertical veins, the former are shifted.

3d. If slanting veins bisect vertical veins, the latter are shifted.

4th. When veins meet at a right angle, no shift is produced in the older vein.

The rules which Mr. Schmidt gives for the discovery of the lost parts of shifted veins are as follows:

1st. If the newer vein dips in a contrary direction to the older one, the lost portion of the latter must be sought on the side where an acute angle is formed by the bisection of the two.

2d. If the two veins dip in the same direction, and the newer vein is more horizontal than the older one, the lost portion of the latter will also be found on the side of the acute angle.

3d. If both veins dip in the same direction, but the newer or younger vein is the most vertical of the two, then the lost part of the shifted vein is to be sought on the side of the obtuse angle.

The latter case being the most common of all, it has previously been the generally admitted rule always to seek the lost portion of a vein on the side of the obtuse angle formed by the vein that is thrown off, and the cross course.

One universal rule is laid down by Mr. Zimmerman, that is applicable to all cases. This gentlemen has had a lifetime's experience in vein-geology, and his results may be considered reliable. The following is his rule:

"Erect a perpendicular line at the point where the cross-course has been struck, upon its line of strike, but towards the interior of the vein. Determine the position of the line of bisection of both veins, which passes the point where the cross-course was struck; prolong this sufficiently towards the opposite selvage; noticing the direction toward which the perpendicular (in approaching the opposite selvage) diverges from the line of bisection, and then seek the lost portion of the vein towards which the perpendicular diverges, after first penetrating through the cross-course."

The above was written for Mr. Lieber's report of South Carolina, several years ago, where also a diagram is annexed; the same one as furnished by Mr. Zimmerman. By this diagram the rule is made more intelligible.—*Colorado Miner.*

PISCATORIAL LOCOMOTION.—M. Monoyer, has recently completed some investigations upon the locomotion of fishes, which are of extreme interest to naturalists and physiologists. The movements of fishes through the water takes place, he says, by the action of the tail, and principally by that of the caudal fin. When the progression is rapid, the other fins play no part in locomotion. When the fish wishes to stop, it does so as an oarsman would by producing "back-water," which it effects through its pectoral fins. The other fins may be employed in this latter operation, but their only use is to prevent the fish turning round on its transverse axis.

THE engineer of a morning train from New York, on the New York and New Haven Railroad, recently discovered an iron rail across the track. He did not observe it in time to stop the train, but it was in such a position that as the cow-catcher struck it the rail broke in two pieces, throwing one piece with such force against a telegraph pole as to cut the pole in two, and the other under the engine, doing some damage, but nothing serious.

THE LARGEST ORGAN.—The new organ just placed in Alexandria Music Hall, London, is the largest organ in the world. It is much larger than the one about which Bostonians blow.

THE SIEMENS' FURNACE.—An English journal says Mr. C. W. Siemens' regenerative gas furnaces, and also his more recently invented process for producing steel direct from pig-metal, are now being applied in France, on a most extensive scale. There will soon be put in operation, in all, 284 producers, in four different establishments of 40, 112, 48, and 84 producers each, at the respective works. Each producer converts into gas two tons of fuel every 24 hours, so that the total consumption will be nearly 680 tons per day. The work which will be done by this consumption it would require 1,000 tons per day to accomplish under the present system, so that there will be a saving of 400 tons of fuel per day effected by the use of the gas furnaces, besides an important saving in the iron itself. Careful and often repeated experiments have proved that, where the Siemens' furnace is used, the wasting of the iron, during both the process of puddling and that of heating, is reduced fully three per cent., and in the case of the works of which we are speaking, the total saving thus effected will amount to about 70 tons of iron per day. Most of the furnaces put down will be of large dimensions, some of the heating furnaces being capable of turning out 40 tons of iron ingots per day. The producers will also supply gas for heating 60 double-flued Cornish boilers, some of which are now being made in this country.

GENERATING STEAM BY GAS.—Illuminating gas has been employed in England, in heating steam boilers and generating steam for working the hoisting apparatus of warehouses, or other purposes where steam power is only required at intervals of time. With a vertical tubular boiler of three horse power, steam at sixty pounds pressure is generated by twenty-three burners, consuming 100 feet per horse power per hour in full work. The compactness, economy, and efficiency of the gas-heated boilers is highly recommended by those who have used them. The first cost and expenses of maintenance is small, and the insurance companies have decided to require no heavy risk premiums on buildings furnished with boilers heated by this plan.—*Exchange.*

PROFITS OF MACHINE AND ENGINE BUILDING.—It appears that the building of engines and machinery offer as good a field as any other for the acquisition of riches. We find it stated in an exchange that the income of Wm. Mason, of Taunton, Mass., as returned to the United States assessor, amounts to the sum of $800,000 for the past four years, a larger aggregate than that returned by any other man in Massachusetts in the same time.

CARTRIDGES FOR BRAZIL AND RUSSIA.—The Metallic Cartridge Company, of East Bridgeport, Conn., have a contract from the government of Brazil for 6,000,000 cartridges, and are about to manufacture 7,500,000 for the Russian Government. The daily product of the works at present is 150,000 to 170,000 cartridges.

AN EXPENSIVE PURCHASE.—The famous ram Dunderberg, built for the United States government by William H. Webb, of New York, and sold to France for $1,500,000, has been completely overhauled and rebuilt by her new owners, at a cost of not less than $4,000,000, and is not yet satisfactory.

BUERK'S

Watchman's Time Detector.

THIS WATCH-CLOCK WAS INTRODUCED TO THE public in almost every section of the United States and Canada about five years ago, and it has proved itself to be the best invention in the world for testing the faithfulness of Watchmen. Since its introduction, the Proprietor has improved on some parts, and corrected deficiencies, and he has now

A Perfect Check upon the Watchman.

With other Clocks, a regular routine has to be followed, but with this a Watchman can be ordered to visit any particular place as often as required, without being compelled to go to places where it is not necessary to visit as often.

The instrument is complete in itself, portable, and as reliable as the best lever watch.

It is not so likely to become disarranged in its works as a good watch, because its parts are stronger. But when it needs cleaning, any common watchmaker can adjust it, its mechanism being simple. It requires no fixtures or wires communicating from room to room, as is the case with the ordinary Watch Clocks; a small, inexpensive stationary key is alone required at each station. By its use places can be guarded that it would be impossible to guard with any other instrument, such as Railroad Tunnels, Bridges, Yards, Shops, etc. The instrument will in all cases be warranted perfect and satisfactory. Its price is invariably *Seventy-five Dollars*, cash on delivery, including as many keys as are requisite, not exceeding twelve.

THIS WATCH-CLOCK IS SOLD AT A LESS PRICE THAN ANY OTHER IN THE MARKET.

The DETECTOR is used extensively by large Manufacturing Establishments and Railroad Companies in the United States, from whom numerous testimonials have been received.

☞This Detector is covered by two U. S. patents. Parties using or selling these instruments without authority from me will be dealt with according to law.

N. B.—Parties purchasing these Clocks should test them sufficiently in the counting-room or office, as they will not be taken back after having been injured by the Watchman through carelessness.

All communications promptly attended to. Address

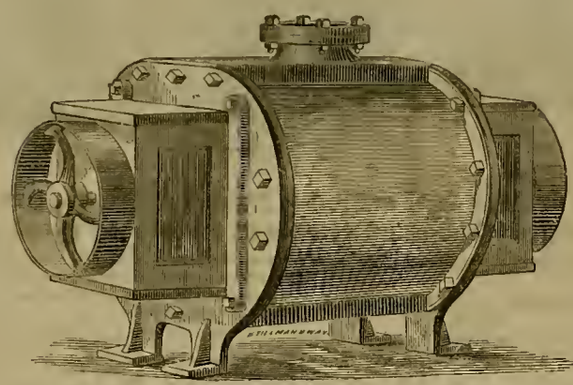
J. F. BUERK, Proprietor,
47 Congress street, Boston.

P. O Box, No. 1057. 23v16-6m

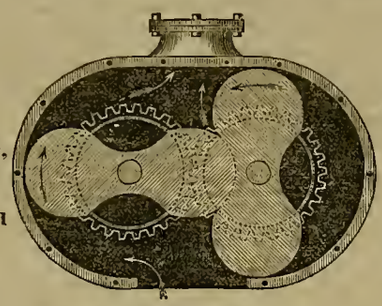
ROOT'S PATENT FORCE BLAST ROTARY BLOWER.

Patented Nov. 1st, 1864; July 24, 1866; and Oct. 9, 1866.

Awarded the First Premium at the Paris Exposition.



ADAPTED FOR **Smelting, Foundry, Mining and Steamships.**



REQUIRES **Fifty Per Cent.** LESS POWER Than any Blower now in use.

One of these Blowers may be seen on exhibition at W. T. Garratt's Brass Foundry, corner of Mission and Fremont streets. They are also in use at the Almaden Quicksilver mine; Gridley's Foundry, Gold Hill, Nevada; Ætna Iron Works, San Francisco, and many other places.

CAUTION.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.

For Circulars and further information, address

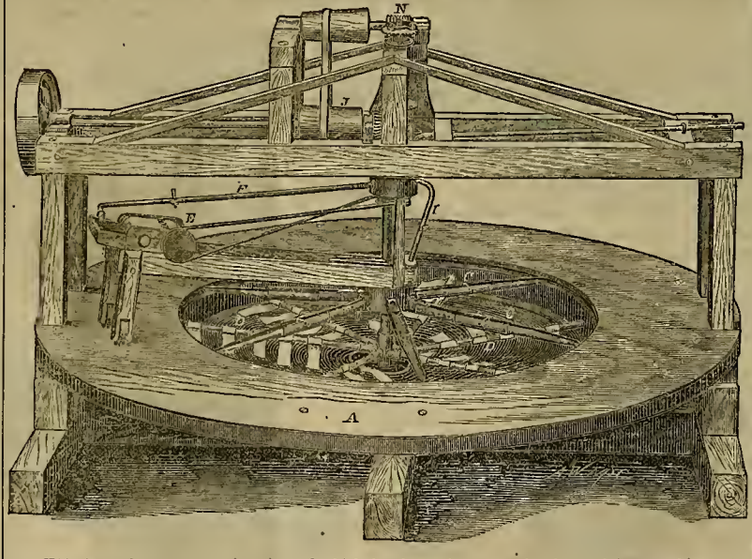
KEEP, BLAKE & CO.,
Globe Iron Works, Stockton, Cal.

4v16 3m

PAINE & STEPHENS'

IMPROVED CONCENTRATOR,

For Saving Gold and Silver Sulphurets.



This invention, a perspective view of which is given above, consists in applying machinery to the ordinary buddle, and rendering the same automatic in action. It is calculated to do a large amount of work.

One Machine, costing about $1,400, is sufficient to work the Sands from 25 to 30 Stamps. But very little power is required.

It can be easily run by one man turning a crank. The principle on which it works is entirely dissimilar from any other machine now used on the Pacific Coast; although it is in almost universal use in Europe; but not so arranged there as to be automatic in action.

The illustration given herewith, was fully described in the Mining and Scientific Press of March 21, 1868.

One of these machines may be seen in constant operation at the Eureka (Watt's) mine in Grass Valley, where it is giving the fullest satisfaction, and is working all the tailings from thirty stamps. Another machine may be seen at the Banner mill, in Nevada, and a third below the Gould & Curry Company's mill, near Virginia City.

For further information, apply to THOMAS N. PAINE, Grass Valley, California.

PAINE & STEPHENS.

13v16eow

Metallurgy.

KUSTEL & HOFMANN,

Metallurgists and Assayers.

Gold and Silver Bullion Assayed.

MINERAL ASSAYS & ANALYSIS MADE.

611 Commercial Street, San Francisco.

SILVER AND GOLD ORES worked in small lots up to hundred pounds, by Chlorination and other methods.

18v16-1f

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ROBERT TAYLOR & CO.,

METALLURGISTS.

SMELTING WORKS,
Corner Folsom and Eleventh streets.

SIMMONS, ROWE & CO., Agents
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GALVANIZING.

Also, Antifriction, Alloys for Journals, Type and Stamping Metals, Tinners' and Plumbers' Solder, etc., etc.

☞ The best price given for the most rebellious or refractory ores. Ores and minerals assayed and analyzed.

22v16 1f

J. H. TIEMANN,

Mining Engineer and Metallurgist,

240 Pearl street, New York,
—AND—
CENTRAL CITY, COLORADO.

19v12-1y

JOHN TAYLOR & CO.

IMPORTERS,

AND DEALERS IN

ASSAYERS' MATERIALS,

Druggists' & Chemists' Glassware

Photographic Stock, Etc.

512 and 514 Washington Street,

SAN FRANCISCO.

WE are receiving direct from MESSRS. LADD & OERTLING (London) and BEEKER & SONS (Antwerp, Belgium) their superior

ASSAY AND BULLION BALANCES,

And from France and Germany, as well as the Eastern States, FURNACES, CRUCIBLES, MUFFLES, BLOW-PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, etc. We have given this branch of our business particular attention, to select such articles as are necessary in the development of the mineral wealth of this coast.

A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' SUNDRIES, ACIDS and CHEMICALS, constantly on hand.

San Francisco March 6, 1865. 11v10-tf

PROF. HENRY WURTZ,

Formerly Chemical Examiner in the U. S. Patent Office, may be employed professionally as a SCIENTIFIC EXPERT. Geological Examinations and Reports, Analysis and Assays, etc., etc. Practical advice and investigations in the Chemical Arts and Manufactures. Invention and examination of new chemical methods and products. Address, 26 Pine street, Rooms 35 and 36, New York. Always in from 12 to 3 P.M. ☞Written communications preferred.

Important to Gold and Silver Miners and Companies.

PROFESSOR WURTZ,

Who is the inventor and Patentee of the new and wonderful uses of SODIUM IN WORKING GOLD AND SILVER ORES AND JEWELERS' SWEEPINGS, will furnish at the above address information in relation thereto, together with experimental packages of

SODIUM AMALGAM.

All instructions and experiments elsewhere obtained are spurious and unreliable. WORKING EXPERIMENTS ON AMALGAMATION OF ORES, Etc., Prof. W. has in operation in New York a large and small Hepburn Pan, for working 1,000 or 20-lb. charges of material for experimental purposes. 3v17

G. W. STRONG,

ASSAYER AND WORKER OF ORES,

UNION FOUNDRY,

Corner First and Mission streets, San Francisco.

Highest price paid for choice lots of Ores, Sulphurets, Assay Ashes, Sweepings, etc., etc. Students instructed in all branches of Metallurgy, on liberal terms.

14v16qr.

JOHN PERRY,

MANUFACTURER OF

Cocoanut Matting, Rugs, Mats, Etc.

And Cocoanut Fiber for Upholstery.

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1st. It is cheaper, all things considered, than most articles in use.

2d. It is the best and purest material known in the market, being entirely free from all offensive smell.

3d. It is the most durable, not being subject to rot after years of exposure to moisture and dampness.

4th. It is remarkable for its elasticity, rivaling, in this respect, the finest curled hair.

5th. It contains nothing to breed vermin or support insect life, being entirely freed in process of preparation from all deleterious vegetable matter.

Lastly. It does not pack; is free from dust; much lighter, and in general obviates all the objections to pads, prepared shavings, soap root, and other inferior substitutes for feathers and hair. 22v166m

ELECTROTYPE CUTS, ENGRAVINGS, ETC.—Our Job Printing Office is abundantly supplied with elegant engravings, ornaments, and other embellishments to suit the various branches of industry in this State

A New Treatise on Concentration of All Kinds of Ores.

INCLUDING THE CHLORINATION PROCESS FOR Gold-Bearing Sulphurets, Arseniurets, and Gold and Silver Ores Generally, by GUIDO KUSTEL, M. E. & M., author of Nevada and California Processes of Silver and Gold Extraction—120 lithographic dingrams.

OPINIONS OF THE PRESS.

KUSTEL'S NEW WORK.—Mr. Guido Kustel has just put forth another volume, a copy of which we have received from the publishers, Dewey & Co., San Francisco. The book contains 120 diagrams on seven plates. In issuing the work, the design of the author appears to have been to exhibit the present state of the art of concentrating ores as practiced in the older and more experienced mining sections of the world, as well as in the more recent mining operations in California. The principles on which the system of concentration is founded are stated without entering into scientific reasons.

The dressing of ores is treated at great length, and the plan is based on these principles: "1st. Each constituent of the mass of ore must be brought to the highest value which can advantageously be given to it. 2d. The useful minerals must be concentrated only to the most advantageous degree of purity; and, 3d. All loss of the quantity and value of the useful mineral must be avoided as far as practicable." Reduction in its diversified modes—by rock-breakers, stamps, rolling mills, and grinding in arastras, pulverizers, Chili mills and pans—necessarily occupies large space by reason of its importance.

The plan of reducing ores by stamps, in either the wet or dry process, forms a complete treatise of itself, and may be studied with advantage by all persons connected with reduction works of that character. Concentration of gold ores is specially treated in section 49, and of silver ores in section 50. The latter subject should possess interest for our millmen and miners, as the plan of concentrating ores is certain to be resorted to as soon as the business is understood and reduced to a system.

The sections of the work devoted to the extraction of gold from sulphurets, arseniurets, or quartz, by chlorination, are based on Plattner's process of the property of chlorine gas to transform metallic gold into soluble chloride of gold. By this process it has been demonstrated that gold is extracted perfectly. Our author says the process was first introduced into Nevada, California, in 1858, where there are several establishments in successful operation.

The process of chlorination is described in the fullest manner, and embraces a particular description of the various roasting furnaces in use, as well as of the operation of roasting.

We commend Mr. Kustel's treatise to the attention of all concerned in the business of mining and reducing ores, to whom it must prove a valuable hand-book of practical knowledge.—*Daily Reese River Reveille, Jan.*, 1868.

Price of the work, $7.50. Published by Dewey & Co., MINING AND SCIENTIFIC PRESS, San Francisco, who will supply orders, by mail or express, at wholesale or retail.

HOW OFTEN do you hear the complaint from mother and father that their son or daughter is not well; that they have no appetite; that they feel languid; that their head aches; that they are growing thin and feeble, and that they have no life or energy left. That they are low-spirited, and perfectly incapacitated to participate in any pleasures, or perform any mental or physical duty. And the question is often asked, what shall I do for them? or, what shall I give them? Our answer is, let them try PLANTATION BITTERS moderately three times a day, and our word for it they will recover. *

MINING PRESS.—This old standard mining journal of the Pacific Coast, comes to us this week, number 1 of Volume XVII, and much improved in several particulars. A beautiful new head and heading letters throughout, make it the neatest, as it has always been the best, exponent of the industries of this coast. Every miner should take the PRESS. The subscription price is $5 per year, and the Postmaster at Monitor is an authorized agent.—*Alpine Miner July 4th.*

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PATENT OFFICE REPORTS, from 1843 to 1847, MECHANICAL, are wanted for duplicate copies at this office. Parties having them for sale will please state price, and address DEWEY & CO., Mining and Scientific Press office, San Francisco.

Mechanics' Fair Press.



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Having received permission from the Mechanics' Institute, we shall print the

Third Volume of the Fair Daily Press,

in the Grand Pavilion, during the approaching Exhibition, which opens on the 8th day of August, 1868.

Our publication of the DAILY PRESS, in the Pavilion in 1864 and 1865, met with marked success, rendering ample satisfaction to its patrons and numerous visitors attending the Fairs. We are now confident that, with improved facilities, experience, and active efforts, the present volume will be made still more attractive and useful for the increased thousands who will visit the Exhibition, and receive, gratitously, each issue

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Some ONE HUNDRED THOUSAND (100,000!) industrial people will visit the Fair and receive copies of the FAIR PRESS. This is a greater number of DIFFERENT INDIVIDUALS than the combined subscriptions of any other ten papers published on the Pacific Coast. Being a NEW PAPER (which the receiver has *seen printed*) the sheet will be preserved, and its contents—both reading and advertising—appearing entirely original, will secure its thorough perusal.

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Particular attention will be given to preparing engravings, inserting advertisements in conspicuous, novel and attractive forms; we will otherwise assist advertisers in getting up their notices, when desired.

A limited portion of the paper will be allotted to a choice class of advertising, furnishing a favorable opportunity such as is rarely met with. Following are our uniform

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Per line (space of small type) during Fair,	2 00
Per line, 10 lines or more, during Fair...	1 75
Per line, 30 lines or more, during Fair...	1 50
Per line for single insertion.....	25

Notices of the Press:

Following are a few of the many compliments paid the previous volumes of the DAILY FAIR PRESS:

THE SCIENTIFIC PRESS proprietors strike off and give away thousands of their little sheet, entitled THE MECHANICS' FAIR DAILY PRESS. There were great crowds all the evening about the telegraph and the presses, many of whom had their first sight at the practical working of these great motors of civilization.—*S. F. Evening Bulletin, Sept.* 7, 1864.

SCIENTIFIC PRESS.—A printing office has been established at the Mechanics' Fair, and Messrs. DEWEY & Co., the enterprising publishers of the MINING AND SCIENTIFIC PRESS, are issuing from it a handsome double-sheet daily, which is a credit to themselves, its editors, and to the Fair.—*S. F. Morning Call, Sept.* 8, 1864.

Parties who intend to advertise will do well to subscribe at once for the amount of space wanted.

DEWEY & CO.,

Publishers of the MINING AND SCIENTIFIC PRESS, Patent Agents, Book and Job Printers, corner of Clay and Sansome streets, San Francisco.

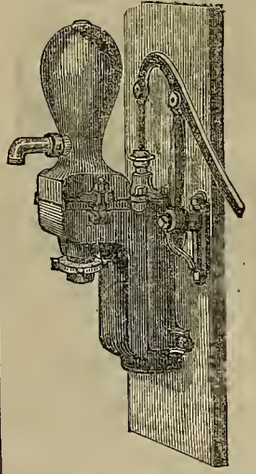
HANSBROW'S CHALLENGE

Deep-Well, Mining and Double-Cylinder Patent Pumps.

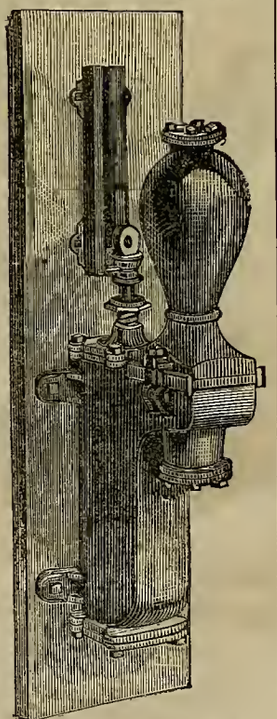
These Pumps combine all the advantages of the common Lift and the Double-Acting Suction and Force Pumps, and are equally fitted for all—Household, Farm, Mill, Manufactory, Brewery, Ship, Railway, Mining, and other purposes, and are especially recommended on account of their lightness, compactness, durability, cheapness, and the facility with which they can be placed in any position.

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Advanced students are also admitted to optional courses, and if already College graduates, are received as candidates for the degree of Doctor of Philosophy.

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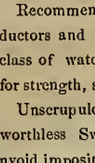
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The PATENT AGENCY of the MINING AND SCIENTIFIC PRESS has been signalized with remarkable success during the past two years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of LETTERS PATENT from the United States and foreign Governments cannot be over-rated, and the Proprietors of the PRESS, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

MINING AND SCIENTIFIC PRESS.

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A Journal of Useful Arts, Science, and Mining and Mechanical Progress.

BY DEWEY & CO., Patent Solicitors.

SAN FRANCISCO, SATURDAY, AUGUST 1, 1868.

VOLUME XVII. Number 5.

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MECHANICAL MISCELLANY.—The Steam Engine to be Superceded; Heavy Machine Tools; New Mode of Operating Slide Valves.

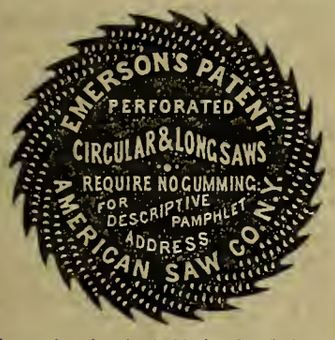
SCIENTIFIC MISCELLANY.—Source of Light in Flame; Gases from Volcanoes; Gold Bearing Rocks; Phosphorescent Photographs; Experiment with Hydrogen.

MINING SUMMARY—Comprising late intelligence from the various counties and districts in California, Colorado, Oacotah, Idaho, Montana, Nevada, Oregon, New Mexico.

San Francisco Market Rates.
Stock Prices—Bid and Asked.
San Francisco Mining Shareholders' Directory.
San Francisco Weekly Stock Circular.

The American Saw Company.

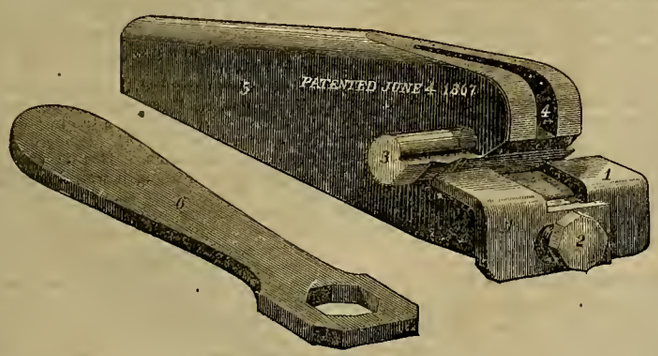
The manufactory of this company is located at Trenton, N. J., with their principal business office at No. 2 Jacob street, N. Y. The saws made by this company have been in use about three years, working in every kind of timber and in every climate. They manufacture two kinds of circular saws, one with movable teeth, and the other with an improved solid tooth. The peculiarity of this latter method of constructing saws, will be readily understood by examining the accompanying figure.



The perforations or half circular holes are on a line with the wear of the saw, and form the base of each tooth as the saw is gradually reduced in size. Many advantages are claimed for this mode of constructing saw teeth. No gumming is required; three-fourths the expense of filing, and consequently of the cost of files is saved; the saw is less liable to be broken, as breaks invariably start from between the teeth, and from a sharp corner made by the file. Should a crack commence it can only break through the bar between the holes or apertures, and go no further. The bars between the holes are *softer* than the cutting part of the saw tooth, are very tough and file easily, so that the corners of the file are not worn out as fast as in filing ordinary saws, while at the same time the cutting part of the tooth is of superior temper. The bars can then be either cut out with a cold chisel, or by filing through them at each end of the bar with a taper file; the bar will drop out and leave a perfect tooth again. Cross-cut and other saws, as well as circular saws, are made with this style of teeth.

It is claimed that wherever these saws have been put into use, they have given the fullest satisfaction. The construction and adjustment of the movable teeth saws, may be readily understood by referring to the company's advertisement. All of these various saws can be seen at the office of the company, 606 Front street, in this city.

In addition to their saws, this company also manufacture a patent adjustable swage, for spreading, sharpening and shaping the teeth of saws. The accompanying illustration, Fig. 2, represents the mode of construction and operation of this instrument; 1, 1, show the adjustable or movable lips; 2, the screw to hold them firmly in position; 3, the sliding-pin containing the V-shaped die; 4, the slot or groove to admit of the swage being used on a fine tooth saw; 5, shows the body of the swage, and 6 the wrench. The movable lips are so constructed as to form the teeth of saws into the most perfect shape, leaving them widest at the extreme points, and on the under side. The tool appears to be a most perfectly devised instrument for the purpose intended. Both this instrument and the perforated tooth arrangement are the inventions of Mr. James E. Emerson, Superintendent of the company's works at Trenton.

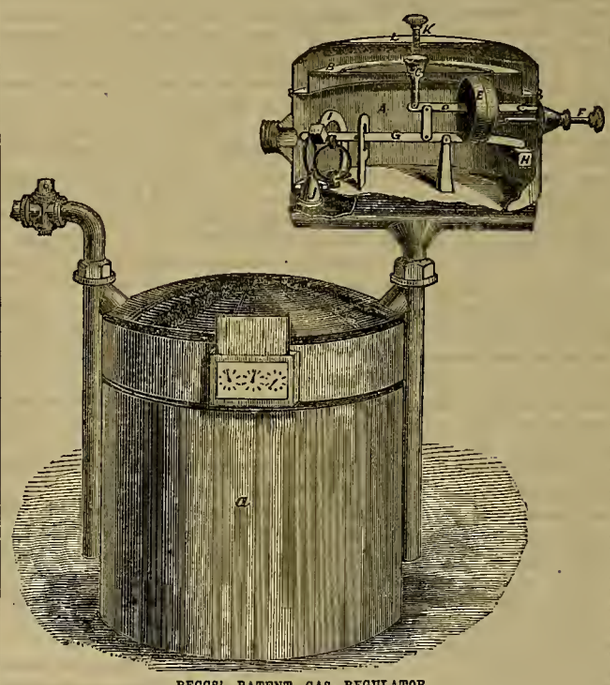


EMERSON'S PATENT ADJUSTABLE SWAGE.

THE MISSOURI TIN MINES.—It appears that the reported tin mines of Missouri are still attracting considerable attention. The St. Louis *Dispatch* of a recent date, says that Phelps, Dodge & Co. of New York, have recently paid $50,000 for 1,200 acres of land, supposed to ho valuablo for tin. A St. Louis company has lately expended $7,500 in sinking shafts and putting up machinery upon their property. A correspondent of the *Dispatch* expresses the opinion that the United States will soon be able to export tin from the mines of Missouri.

Beggs' Gas Regulator.

The want of something to regulate the pressure of gas in service pipes, to the proper standard for securing a bright and steady light, with an economical use of the gas, has long been felt and acknowledged. Gas, when burning under too high a pressure, is forced so rapidly through the burner into the atmosphere, that sufficient time is not given for it to properly mix with the oxygen of the air, until at least a large portion of it has passed beyond the influence of the heat derivable from the blaze, by which it should be ignited; that portion consequently passes away unburned, and is of course wasted. But under a proper pressure the gas is all consumed, and the intensity of the light greatly increased.



BEGGS' PATENT GAS REGULATOR.

When the gas is first turned on the proper degree of pressure may readily be obtained. But if turned on early in the evening, the numerous additional burners subsequently lighted and fed from the same street main, so reduces the pressure as to cause an imperfect light; again, if the quantity of gas is increased by turning off a portion of the burners, the pressure will be so great that much of the gas will pass away unconsumed. Thus these changes take place from hour to hour, as the number of lights in any given neighborhood are increased or diminished. You must therefore either be constantly regulating your gas, or your lights will be defective and unsatisfactory.

Now the only practical way to remedy this evil is to procure some arrangement which shall be sufficiently sensitive, and at the same time have sufficient power to do this regulating work for you. Mr. Eugene Beggs, of this city, after considerable study and experiment, has finally succeeded in devising an apparatus which seems to accomplish this purpose most perfectly. This apparatus is connected to the meter, and acts as a perfect governor or regulator to the flow of the gas, and consequently to the pressure with which it enters the burners. When a single burner, of many that may be lighted, is turned off, or an additional one turned on, it is quite surprising to witness how quickly this sensitive and automatic device adjusts itself to the decreased or increased demand for the illuminating medium. No human hand could more quickly or accurately adjust the subtle fluid to its accidental disturbance.

We give herewith a sectional view of this regulator, showing its connection with the outlet pipe of the meter, and exhibiting the interior arrangement of the device. By referring to the engraving, a represents the meter, and A the case of the regulator. B is the diaphragm, which in this apparatus is made of a flexible metallic substance, instead of oiled silk, leather, etc., which allows the gas to escape through its pores. By the use of metal all leakage is avoided, while the requisite delicacy of movement is at the same time secured. The diaphragm B has the post C passing through its center and attached to the end of the lever *D*. This lever is connected with the lever G by a link as shown, and the valve J is attached to the long arm of the lever *G*, so that by the intervention of the series of levers, a very slight motion of the diaphragm very sensibly affects the valve. The lever G has at the opposite end from the valve, a counterpoise *H*, and the lever *D* carries the adjustable weight *E*, which is operated by a rod *F* passing through a stuffing-box on the side of the case. By means of this rod the weight *E* can be moved along the lever *D* to any point, and when once adjusted to any desired number of burners needs no further attention. A curved lever *I* is attached to a standard beneath the lever *G*, and has its short arm attached to the lever by a link. The opposite end of the curved lever passes over the top of the lever G, and carries a weight

which, moving hackward and forward, is increased or diminished in its effects by heing carried furtber from, or hrought more directly over its center of gravity, and thus equalizes the pressure, whether a larger or smaller number of burners are used.

Tbe screw K is designed to stop the action of the regulator, when desired. When screwed down it impinges upon the nut on tbe top of the post C, by which tbe diaphragm is forced down, and the valve J opened to its fullest extent, allowing the gas to pass through, as though tbere was no regulator attached. The object of this arrangement is to readily determine, whenever anything is out of order, where the fault lies, without removing the regulator.

The advantages claimed by the inventor for this over other regulators, are enumerated as follows :

1st. No liquids of any kind are used to seal the gas, which liquids always require attention when used.

2d. There are no drips or places for tbe water and tar to accumulate, which will put out the light if not drawn off in time.

3d. It is easier regulated, as there are no extra weights required.

4th. In changing the meter, it can be taken off and replaced without interfering with its working.

5th. Is the only dry regulator which increases the weight on the diaphragm as the greater number of burners are required.

6th. Is the most sensitive, as a large surface is allowed for the gas to act upon.

7th. The valve never draws up tight to the valve seat, but always hangs loose, which will prevent it from sticking fast.

8th. The gas can pass through without the regulator working, and any one can attend to it, hy turning the screw on the top of the case.

9th. Is the cheapest and most durahle, as well as the easiest to set to work.

This regulator, when properly constructed, fulfills the important office of continuously adjusting the supply, and whether one burner or all on the premises are lighted, it is equally effective ; so that by the employment of proper hurners, and by so adjusting the pressure that it shall not exact four-tenths of that which is required for the size of burners in use on tbe premises, the maximum light is then ohtained from a given quantity of gas, and as there is no irregularity in the hight of the flames, there is no waste and but little smoke. The economy derived from the use of the regulator is considerahle, depending, however, upon circumstances,—such as the pressure of the gas in the locality, the care previously taken in adjusting the kiud of burners employed before and after the instrument, etc. It is claimed by the inventor that it is hy no means uncommon for a saving of 30 per cent. to he effected hy its use, and still retain the same amount of light.

The simplicity of the construction of this device is such that any person can readily understand its operation and attend to it. Its cheapness brings it witbin the reach of every gas consumer ; and all may derive a proportionate henefit from its use, whether they consume much or little gas.

It requires no argument beyond the mere statement of facts as given, to prove the value of such a device as we have described, This apparatus appears to overcome tbe ohjections which have heen urged against the two or three other devices which have been previously introduced to the puhlic, to meet the want of a gas regulator. The public are respectfully invited to call and examine the apparatus in operation, either in day time or evening, at the store of O'Brien, Bush & Co., 539 California, hetween Montgomery and Kearny streets. Tbey may also be seen at the gas-fitting establishment of J. K. Prior, 730 Montgomery street. A patent for this invention has heen obtained through the Mining and Scientific Press Patent Agency.

Chinese Literature.—Mr. Burlingame says the Chinese have more books, encyclopedias, pamphlets, magazines, etc., than any other people. Their principal encyclopedia embraces over 5,000 volumes.

Communications.

In this Department we invite the free discussion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

The Making of Mortar.

Editors Press.—In your paper of June 13th, there was a communication on the "making of mortar," by Joseph Dysart, of Pennsylvania, to the following effect :

"None of our builders, masons, or bricklayers understand the action of lime upon sand, etc. I take it for granted that lime and sand produce silicate of lime, which is the binding principle in common mortar. It is clear that the longer the lime and sand remain mixed in the condition of mortar, the more of this hinding principle will he produced; but instead of this, mortar is generally used soon after it is made. If the plasterer would mix the slackened lime witb the sand, aud let it stand for a long time, so as to produce the silicate of lime, they would make a hetter joh, etc."

Now, I only wish to suggest, that the above idea is in contradiction with the results of the experiments made on tbis subject hy the hest chemists. Common sand contains the silica in an insoluble state, and slackened lime has no effect on it, unless they are left in contact for a great many years, and then the sand will he found only very slightly corroded, and the quantity of silicate of lime so formed, will be very trifling iudeed. The hardening of common mortar is mainly the result of the action of the air, which by the carhonic acid it eontains produces carbonate of lime, and also a connection of the carhonate with the hydrate of lime. The porosity of the mortar favors this action. It is a different case with the *hydraulic cement*, which contains tbe silica as a hydrate, in which condition it will readily unite with the lime, forming silicate of lime, which is insolnhle in water, and will even harden under water. To determine whether a cement contains the silica in the proper state, it has to be treated with muriatic acid, which, after a little while, will separate tbe hydrated silica in tbe shape of jelly. It is certain that this kind of cement would he prefcrahle for any purposes that mortar is used, if it was not too expensive. Good cement hardens quicker than common mortar, and connects the hricks or stones to a solid mass, as it contains tbe material for the formation of tbe silicate of lime in itself, and does not depend like common mortar on the slow action of the air, which finally produces only carhonate of lime, wbich is not near so durahle as the silicate. E. Pique.

Skilled Workmen.—The *Scientific American* thinks tbe abolition of the apprenticesbip system and the general adoption of machinery, are the causes of the present scarcity of first-class workmen. Certain it is, that if we expect good workmen, we must have educated apprentices. In every husiness but that of mechanics a proper educational preparation is expected and exacted. Let our mechanical apprentices he compelled to pass a suitable examination after a suitable training, and we shall have good workmen.

Acoustic.—Underneath the hall of tbe British House of Commons is a room used as a store room, and partly filled with hot air flues and ventilating pipes which convey fresh air to the chamher. Recently a gentlemen who bad gone into this room to search for something, while standing close to one of these ventilating pipes, was startled to hear a whisper apparently close to his ear. After listening a moment he ascertained that the whisper proceeded from a distinguished member of the Ministerial party in tbe room above, who, during a dehate, was privately explaining to a colleauge the course to be pursued on a certain question. The whisper, inaudible in the chamber itself, was clearly conveyed by means of the pipe to the room below. The discovery may help to explain the manner in which several State secrets, supposed to he inviolate, have hitherto in some unaccountable way become public property.

[Written for the Mining and Scientific Press.]

Martins in San Francisco.

Editors Press :—Your paper of course records in its scientific columns, observations of new facts in Natural History, as well as other sciences; for, though apparently of little consequence in themselves, such facts may have an important hearing on more practical sciences, such as affect our lives or our property.

I wisb therefore to make a few remarks on the occurrence on this coast, of those heautiful and useful hirds,—the martins,—and their allies the swallows. Since 1860, I have noticed almost every May that several pairs of martins (*Progne purpurea* of naturalists, found throughout America) lingered during their migration northward, for several days in this city, hut then disappeared, because,—as I supposed,—tbe sea winds were too cold for them. This year, however, two pairs have remained, finding a nesting place in tbe cornice-work of a high building on Sansome street, near your office, and bave apparently raised hroods, which, according to the custom of the species elsewhere, will douhtless leave for the south in August. This having been in an uncommonly cold season, shows that if the proper boxes, either plain or ornamental, were provided for these hirds and fixed in high situations, inaccessible to cats, etc., many of them would spend the summer here.

We bave always had the cliff swallow (*Hirundo lunifrons*) huilding on cliffs and under eaves, wherever permitted. Many persons drive them away because, as they say, they "hreed" hed-bugs. While living in the country, I investigated this question, and found that the bugs were quite distinct from the chinch or hed-bug of human dwellings, and would not bite, nor enter the house after the nests were torn down. It is well known to naturalists that nearly every species of hird has its peculiar parasite, which is harmless to other animals.

I think a few of the green swallows (*H. bicolor*) have also remained this year, in the southern part of tho city, building in knot holes or other cavities, like the martins. Let us encourage all these insect-eating and musical hirds, to spend tbo summer here and help to enliven our chilly, foggy days. J. G. C.

San Francisco, July 14th, 1868.

The Blush of a Cuttle Fish.—Under the influence of strong emotion the human face turns pale, or blushes; in some individuals it even hecomes blue. The cuttle fish does this, and more. Yielding to the impressions of tbe moment, it suddenly changes color, passing through a variety of tints, and only resuming its familiar hue when the cause of the change has disappeared. It is, in fact, gifted with great sensihility, which reacts immediately on its elastic tissues in a most extraordinary and unlooked-for way. Under the influence of passion man is born to hlush; but under no sort of excitement does he cover himself with pustules. The cuttle fish not only changes color, hut throws out an eruption of little warts. "Observe," says D'Orbingny, "a poulpe in a poole of water. As it walks round its retreat, it is smootb and very pale. Attempt to seize it, it quickly assumes a deeper tint, and its body becomes covered on the instant with warts and bairs, which remain there until its confidence is entirely restored."

Improvements in Gas Manufacture.—At the recent annual meeting of the British Association of Gas Managers, it was stated that upwards of 20 uew appliances in tbe manufacture and distribution of gas were introduced last year. Amongst the foremost of tbem was the plan of using a mixture of small coal with shale oil, as a substitute for cannel coal, for the production of gaslight of high illuminating power.

A French journal announces the arrival in Paris of a Yankee who is about to effect quite a revolution in typography—his invention aiming at nothing less than to enable people to read in the dark.

African Geography 300 Years Ago.

Modern Discoveries Anticipated.

Mr. P. Hatley Waddell, of the city of Glasgow, Scotland, has furnished the editor of the Glasgow *Herald* witb the following statement, which, if correct, is certainly of much interest. It is very singular, however, that the existence of such a collection of maps should have been known for over two years, as stated, without being produced. We give the statement as we find it in the *Herald:*

There has been in my possession for twe or three years past, a collection of ancient miniature maps, to two of which very recently, in consequence of Sir Roderick Murchison's late address to the Royal Geographical Society, my attention has been more particularly directed. One of theso is a general map of Africa, in which the watershed of that continent and the sonrces of the Nile, the Zambezi, and a west-flowing river (Congo or some other river, name unknown) are all represented in a very simple, suggestive, and singular fashion. On reading Sir Roderick's address, I communicated with bim in respect to this map; hut I learn by his prompt and courteous reply that it is entirely new to him—that he has never seen, or apparently heard of it, hefore. The other is an extended map of the Abyssinian Empire, with sonrces of the Nile displayed—in all essential respects so closely corresponding to the most recent discoveries with which we are acquainted that the one, without much practical danger to science, might be readily snbstituted for all the others. In some respects, it supplements discoveries which Speke, Grant and Baker now, and even Livingstone as yet, for anything we know, has left incomplete. Only in one particular does it fall short of what they have actually ascertained; so that the credit of comparative accuracy is so far in its favor. The disoovery of this map also I have notified to Sir Roderick Murchison, but have had no communication since. I may conclude, however, that it is unknown to him, because both maps are in the same collection. To Sir Samuel Baker it certainly must have been unknown, or his silence on the subject is inexplicable. In our best modern atlases I do not find the slightest trace of it, all heing either blank or the wildest conjecture in that region ; and, what is still more astonishing, I do not find any reference to it by the most eminent missionary explorers of Abyssinia as far back as 1624. But both maps, which, along with the rest, were published in 1592, are now extant, in perfect preservation, and testify for themselves in the most indisputable fashion. How they should be unknown to geographers and explorers at this date in the history of the world is certainly a strange enigma. With this map of Abyssinia in his hand, any resolute pedestrian might march right on the source of the Nile from the nearest point on the eastern seaboard of Africa, with not more than one days's deviation from the proper route ; whereas months and years of painful, exhausting, and often fatal fatigue have been encountered, with heroic fortitude and miraculous perseverance, by brave men and devoted women to attain this object—scarcely yet attained. The wonder is, if possible, enhanced when one observes that these maps are each only 3x4 inches square, and that tbe whole region about the source of the Nile—including lakes, rivers, towns, names and all—is delineated in very little more space than a postage or receipt stamp would cover.

It has been suggested to me by those who have examined these singular productions, that I should publish a tracing of them both, with a few pages of letter-press to illustrate their bearings. If this suggestion should be acted upon, it would certainly be with no desire to provoke any scientific discussion—a thing for which I have no disposition—but simply to present the public with what seems to be a very rare scientific curiosity, that those who are more directly concerned in such inquiries may examine and judge for themselves. Certain it is, that with all our achievements of discovery, we can claim neither monopoly nor precedence any longer in such triumphs, for the very fields in which our greatest modern triumphs of this sort have been surveyed and mapped by some unknown, or at least nameless, Portuguese wanderer, between 200 and 300 years before any man now living was born, and its delineation published, with ecclesiastical and royal permission, to Continental Europe 276 years ago.

Ten per cent. of the works of art exhibited hy the Philadelphia Academy during the present season, are by women.

Mechanical.

The Steam Engine to be Superseded.

In the last edition of Mr. Bourno's "Treatiso on the Steam Engine," that eminent engineer expressed the conviction that "the steam engino would pass away before many years," and somo other and more economical motor come into use, in its stead. Reference was made to this fact in our issno of Jnno 13th, 1868. The engineering world was somewbat startled by this announcement; not because its enunciation was new; but because of the high authority which then made tbe utterance. More recently, and within a few weeks, Mr. Bourne has given to the world the first issne of another work, which is to be completed in twenty-four numbers, and wherein the author proposes to place his readers in possession of all the important facts with regard to the progress of the steam engine from the days of Watt to the present time, to review the expedients which bave been proposed as substitutes for the steam engine, and to analyze tbeir respective degrees of merit and promise. The work will also contain practical and illnstrative drawings and descriptions of the best forms of air, gas and magnetic engines which have already been devised, with suitable commentaries and critical investigations thereof, with the object of deterring from tho adoption of the bad and doubtful, and leading toward the best types now available. In alluding to this enunciation, and to the first number of Mr. Bourne's new work, which had then jnst appeared, the *Engineer* of Juno 12th, says:

We have long heen acqnainted with many of the views with which the present work will no donbt startle the engineering world, and evidences of this knowledge will bave been observed by the attentive reader of our pages to he occasionally cropping out, though we refrain from laying any connected statement of it before the public. And if the engineers now awako to the perception of the great fact that the steam engine is slipping from their grasp—tbat it is a moribund expedient, now about to be superseded by other motors more simple and less expensive—it will not he without an effort that they will have heen roused from their ancient somnolency, nor will it he without much intermediate scepticism that they will finally arrive at this salntary conviction. It is probably to the anticipation of this phase of unbelief that we must attribute the references which Mr. Bourne bas given to his past counsels and predictions—under the idea no doubt that his authority would be thereby snfficiently fortified to lend the necessary weight to his present expositions to ensure their fair and intelligent appreciation. Most persons who should venture to appear before the engineering public with the announcement that tbe steam engine was about to be done away with would be in danger of being set down as ignorant enthusiasts, to whom no heed need be given; but such a conclnsion can bardly be arrived at when the intimation is made by a person already widely known for his intimate acqnaintance with the subject, and when, furthor, it is remembered tbat he is the author of most of the improvements which have been introduced into the steam engine since Watt's time, although the real origin of these improvements has not hitherto heen revealed. * * * *

The reflection presses itself upon us, as it will, no doubt, do upon our readers, that snch a work coming from such a quarter indicatea the impending supersession of the steam engine as a prime mover, and must be regarded as the beginning of the end. A revolution so enormous has not occurred in our day; and the public curiosity will be intensely excited to learn what superior agent is likely to take the place of the ancient servant now about to disappear.

An English engineer, now in New York, writes to tho London *Engineer* as follows: "The cast iron here astonishes me. I saw in Brooklyn Navy Yard a cast iron naval gun which had heen hit by a Southern shot about four feet from the muzzle, and the shot had left its mark, impressing the rifling quite clearly. There was not a crack upon the surface of the gun, but the dint was driven right through the thickness of the gun and reproduced in the chase, so that a closely fitting shot could not he fired from it."

Heavy Machine Tools.—Modern improvements largely require the production of exceedingly heavy work, combined with accuracy of detail and finish. This demand calls, in turn, for machine tools of comparative magnitudo and weight. Among the principal tools nsed in the machine manufacturing works of Wm. Sellers & Co., of Philadelphia, is a planer, the capacity of which is, length 45 feet, width 10 feet, hight 8 feet. The same establishment has a radial drill with a 10-foot projecting swing-arm, and a boring drill of 8-foot swing. These works have recently constructed a 24-foot vertical boring and turning machine for the Charlestown Navy Yard, whose total weight is over 72 tons. This machine was fully described in our colnmns of March 21st. A second tool of the samo dimensions, and to be constructed after the same patterns, has been ordered for the Washington Navy Yard.

New Mode of Operating Slide Valves. Isaac Church, Jr., of Norwalk, Conn., has jnst patented an improvement in operating tho slide valves of steam engines and pumps applicable more specially to direct double-acting steam pumps, and it will snffice here to regard the same in snch connection. The improvement is based upon that principlo of action, which has before been applied in various forms, in which the valve controlling tho action of the piston is shot or worked alternately in opposite directions by steam admitted through the agency of secondary valves that are opened and closed by the motion of the piston. But this invention differs from previous devices of the character referred to, in causing the main valve to be thrown or shot by steam admitted through puppet valves so arranged as that the engine piston operates in a direct manner upon their stems to lift, and it may also to drop them, and wherehy not only are all outside connections for operating the valves dispensed with, but a most simple and efficient interior valve-operating action or arrangement secured.

Hair Cutting by Machinery.—Hair cutting by machinery is now an accomplished fact, so far as horses and oxen are concerned, and it seems by no means impossible in the of the human head. M. Nabat has invented a mechanical razor, which, in principle, is something like a lawn-mower. A helix, with steel blades tangent to a comb, is made to rotate hy means of a flexihlo chain worked by a lever. One man works the lever, while the "operator" promenades the comb over the body of the animal, regulating the length of hair to be left, hy the inclination of the comh. It is said that horses and other beasts enjoy being clipped by machinery. It, however, remains to be seen whether humanity will.—*Mechanics' Magazine.*

Mr. J. F. Bennet announces that he can remove sulphur and phosphorus from pig-iron, during its treatment in the Bessemer process, hy introdncing into the converting vessel carhonic acid gas, either before or with the air blast. He asserts that sulphurons and phosphoric acid are formed at the expense of the carhonic acid gas, the carbon of which is liberated. The gas is produced by acting on hrimstoue by hydrochloric acid, or by burning carbonaccous matter and storing in a gasometer.

Superiority of American Cast Steel. Experiments recently mado at the Navy Department, Washington, with cast steel resulted in favor of an American hrand—that of tho Black Diamond Company, Pittsburg, Pa.—which atood the extraordinary test of 242,100 pounds tensile strength to the squarc inch, being the highest on record, and showing a superiority over English manufacturo.

Mr. Fairbairn in 1840, predicted that, in the course of four or five years, iron would entirely supersede wood in shipbuilding; and he subsequently gave his opinion that the whole navy of Great Britain must be remodeled and rebuilt of iron—in framework no less than in armor.

The iron bridge on the line of the Catasauqua and Foglesville Railroad is the longest iron structure of the kind in the United States, the extreme length being 1,165 feet, and hight 90 feet.

Before 1829 it required about five pounds of coal to carry ono a milo. In that year Geo. Stephenson reduced it to 2.41 pounds of coke. It can now be brought to less than a qnarter of a pound per ton per mile.

Scientific Miscellany.

The Source of Light in Flame.

It has until recently been taught tbat the light of flames is altogether due to the ignited particles of solid matter liberated in the hurning gases. Recent experiments, however, have proved that this is not true in all cases. In burning hydrocarbons—whether a candle or hydrocarbon oils—the oxygen of the atmosphere first unites with the hydrogen, hy reason of its greater affinity for that gas than for carhon. If there is not an excess of oxygen present, the particles of carbon will be set free and pass off as smoke, or be deposited in the form of lampblack. Tho union of the oxygen and hydrogen is made without any material production of light or flame. The flame and light is due to the burniug particles of solid carbon which vibrate, momentarily, with the evolution of waves of light, and are then consumed or converted into a invisible gas. If we hold a piece of white crockery in a hydrocarbon flame, it is immediately blackened hy a deposit of carhon, whicb is cooled by the contact, and arrested in its progress of consumption. If we bold a piece of the same crockery in an oxyhydrogen flame it will not be blackened, for the reason that there is no carbon present.

When an electric light is projected upon a screen, it is distinctly noticeable that the brightness of the light is produced by the two ignited solid carbon points, while the space between them is almost dark—the little light that is visible is due to tbe passing over of fine particles of the carhon from the positive to the negative pole.

But all flames are not thus due to the ignition of particles of solid carbon or other solid matter. It has recently been shown that compression has much to do with tbe production of flame. Oxygen and hydrogen contain no solid matter, and hence it has been supposed that the flame produced hy their combustion could not be made to give out light. Recent experiments, however, have shown that when these snbstances are ignited by an electric spark, in a very strong glass vessel, they give out a most intense light. This light is due to the compression produced by the expansion of the gases at the moment of ignition.

The brightness of the electric spark may be largely increased by compression of the atmosphere through which it is passed. If we attach a glass tube to a force pump, and produce the electric spark within it, while the density of the air is being constantly increased hy the action of the pump, the luminosity of the spark will increase with the increasing density of the atmosphere in the tube, and fall off with the decrease of its density.

Various other experiments of a similar nature have recently been made to prove that the rule which influences the production of light in flames, without the presence of solid particles, is,—that the denser the products of combustion, the greater is the light produced.

Meteoric Stones have fallen in unusual quantities during the last six months. Birmingham, in England, has recently been visited hy a shower of these celestial missiles, which fell in the streets of that city in great quantities during a very heavy rain storm. They were about the eighth of an inch in length, and greatly resembled the meteoric particles that fell in similar abundance on the 12th of June, 1853. Prof. Loomis says 8,000,000 stars shoot through the earth's atmosphere every twenty-four hours, some of them very small, weighing 480 to the ounce.

Gases from Volcanoes.—In a report from the French Academy of Sciences, in 1858, is expressed an opinion that the gaseous emanations from a volcano, carefully analyzed and compared, will throw light on the chemical process which gave them birth; and enable observers in tho vicinity of a volcano, and through them the surrounding population, to foresee the course which a coming eruption is likely to run, and of course serve as a useful warning.

The Gold-Bearing Rocks.—Sir Roderick Murchison, in tbe now edition of his "Siluria," has modified the views first put forth by him as to the distribution of gold in the earth's crust. His most recent conclusions are:

1. That looking to the world at large, the auriferous veinstones in the lower silurian rocks contain the greatest quantity of gold.

2. That where certain igneous eruptions penetrated the secondary deposits, the latter have been rendered auriferous for a limited distance only beyond the junction of the two rocks.

3. That the general axiom before insisted upon remains, that all secondary and tertiary deposits (except the auriferous detritus in the latter) not so specially affected never contains gold.

4. That as no unaltered, purely aqneous sediment ever contains gold, the argument in favor of the igneous origin of the metal is prodigiously strengtbened; or in other words, that the granites and diorites have been the chief gold producers, and that the auriferous quartz-bands in the palæozoic rocks are also the result of heat and chemical agency.

Phosphorescent Photographs.—The Berlin *Archiv* for April gives tbe following method for making photographs which are invisible in the light, but are luminous in the dark: Sulphate of baryta (heavy spar) is finely pulverized, mixed with gum tragacanth and heated in a closed crucible. Instead of heavy spar, a carbonate of haryta, strontia, or lime, with half its weight of sulphur, may be used. The pulverized product should he kept in a closed bottle. A sheet of albumenized paper is moistened with wet blotting paper; when sticky the powdered substance is distributed equally over it hy a tuft of cotton and then dried in the dark. It is printed under a glass *positive.* Only a few seconds are required when baryta is used; with magnesia a little longer time is needed. In the dark, the light portions show the peculiar phosphorescent luminosity, the dark portions being distinguished by a want of phosphoresence. The picture will, however, slowly disappear. When required to keep, the picture is made on a film of paraffine poured on glass, and covered while still warm with the powder, and treated in the same manner as the albumen paper.

Curious Application of Musical Notes. One of the most interesting uses to which it has been proposed to apply musical notes is that lately suggested by Mr. Airy, an English practitioner, who suggests that through their agency the strain exerted upon bridges and other girders may be very accurately ascertained; the notes given out by girders of the same length and structure at any given tension being identical, so that any difference in the notes will indicate a corresponding difference in the tension. The experiments of Mr. Airy were made with a model of an ordinary how-string bridge; and *Engineering* suggests that the same process may be employed to advantage in the construction of large and complicated iron structures, and also for ascertaining the strains on the arched roofs of railway stations and the ties of suspension bridges.

Interesting Experiment with Hydrogen.—M. Cailletet announces the extraordinary circumstance that hydrogen will pass through iron even at the common temperature on certain conditions. He caused two thin iron laminæ to be welded together round the borders, so as to form a large artificial blister. To this was welded a thin tube establishing a communication with the hollow space left between the two plates, and the whole apparatus so constructed was plunged into a bath of dilute sulphuric acid. The numerous bubbles which escaped through the open extremity of the tube being collected in a receiver, were ascertained to be hydrogen.

New Method of Preparing Magnesium. M. Reichert has devised a new method of preparing magnesium. He takes 1,000 grammes of the anhydrous double chloride of magnesium and potassium, pulverizes it, and mixes it with 100 grammes of finely powdered fluor spar; this mixture is fused with 100 grammes of sodium. The compound proposed for use occurs in the mineral kingdom in tolerable abundance as carnalite. White pieces of this mineral are available, and require no previous treatment; colored fragments must he dissolved in water, the impurities allowed to settle, and the lixivium evaporated.—*Druggists' Circular.*

Leading Book Concern of America.

Sometime since we gave a pretty full description of the priuting and book manufactory of Messrs. D. Appleton & Co., situated in the city of Brooklyn. While in New York, lately, we visited the new store of this firm, and were pleased to see the completeness which the Appletons have attained in the construction and adaptation of their new huilding to their extensive trade.

Their business has been handed down from father to sons; the latter profiting by experience, now conduct a business economically and systematically, which other persons equally intelligent, but less practical, would lead into utmost confusion.

A fine portrait of the Appletons' father—a countenance betokening straight-forwardness—is among the elegant decorations of their reception room. The elder Appleton's first book was a tiny affair; and yet in those infant days of American book-publishing, it received more deliheration thau a full-sized volnme, destined to reach its twentieth thousand, now receives.

In three months, the sales of Dickens' works at this house amounted to over 500,000 volumes; Mulbach, in the same period, also reached over 300,000; and Cornell's series of school books, 200,000.

If the educational advancement of a nation may be noted by the increasing sales of books, this indicates rapid progress in the United States. Appletons' new building is located at Nos. 90, 92 and 94 Grand street, corner of Greene, two blocks west of Broadway, and was built expressly for their trade, which had outgrown their former location on Broadway.

As the leading book house of America, a brief description of the store will be of interest; but a visit alone can convey an adequate conception of its elegance and magnitude. It has a front of 75 feet on Grand street, and 100 feet on Greene, and is five stories high. The front on Grand street is of sandstone, and that on Greene street of brick, with sandstone facings. Large and elegant iron pillars flank the doorways on both streets, and give additional snpport to the structure. The cost of the building was $160,000. The basement, 75 by 100 feet, is a general stock room. Here may he seen great piles of cyclopædias, school books, and Dickens' and Scott's novels, and the standard works of the house, fresh from the Brooklyn book factory. Under the sidewalks are ranged the "subscription books" of the house,—an important department of its business. Broad flights at each end of the basement lead to the first floor, which is perhaps the busiest place in this busy establishment. Entering through the western door on Grand street, the visitor will find himself in the retail department. The business of this branch is conducted precisely the same as in the Broadway store, though it occupies less space on the premises. The fittings are in oak, rich and neat, which, in a word, is the style of the furniture and decoratious throughout the building. Adjoining the retail bureau is the subscription department, which has grown into an immense business within a few years, and is still steadily increasing. Next, to the left, is the city branch, which is a complete book store in miniature, intended for the supply of the local trade. Ascending to the second floor by the wide, easy staircase, or by the easier elevator (which lands one on every floor in succession) the first object of interest to the casual observer is the ample and beautifully furnished suit of business offices on the Grand street front. On this floor also is the educational department, through which the colleges, academies, and common schools of the country are furnished with those standard works the enumeration of which occupies several pages of the catalogue. The distribution of some of the leading popular school books, such as Webster's spellers, Cornell's geographics, and Quackenbos' arithemetics, constitutes of itself an enormous business. The third floor is similar in general respects to the floor below, and is full of juvenile books, poetry, works of fiction, photograph albums, etc., etc. The poets have a corner to themselves, as in Westminister Abhey, though here their works are anything but dead. Theology and Spanish literature are on the fourth floor. The fifth and last floor serves the purpose at present of a store-room for goods in bulk. Of all the leading books, it is the intention of the Appletons to keep a very largo supply always on hand.

New Patents Issued to Pacific Coast Inventors.

Specially reported by the U. S. Patent Office, Washington, D. C., to Dewey & Co., American and Foreign Patent Solicitors, and Publishers of the Mining and Scientific Press.

Issued for the Week ending July 14, 1868.

79,820.—Improvement in Chimney Cowls. J. W. Foard, San Francisco, Cal.:

I claim the ventilator, composed essentially of the pipe A, and cowl C, united by the connectiou-pipe B, the cowl having the expanded end c, to receive the air to create the current, and the elongated cylindrical or parallelopipedon discharge end c′, for the purpose described, all the said parts being constructed and arranged to operate together, substantially in the manner specified.

79,880.—Improvement in Gano Plow.—James T. Watkins, Santa Clara, Cal.:

1. I claim the plows H, H, in combination with the blocks E, E′, the holding-screws I, I, by which the plows are adjusted, and the wedges a, a, constructed and arranged substantially as described.

2. The blocks E, E′, mounted upon the axles C, C′, and the bent arms J, J′, with the set-screws K, K′, for regulating the depth of the furrows, substantially as described.

3. The bent arm N, and connecting-rod O, with the handle M, and the catch P, for disengaging the plows, substantially as described.

4. The bent axle R, with the nut R′, and the screw S, for raising and depressing the furrow-wheel, substantially as described.

This invention relates to an improved method for regulating the depth of the furrows, as well as a device for instantaneously disengaging one or both of the plows from the earth. For this purpose the plow standards are firmly attached to axles extending across the frame. From these axles, arms or levers extend forward so as to rest on cross-bars, and they may be raised or lowered by means of set-screws, thus regulating the depths of the furrow.

Two other bent levers are also attached to the axles before mentioned, which may be operated separately or connected by a link or rod. By these, one or both plows can he thrown out of the ground at once, and held by a catch or spring. To regulate the relative hight of the furrow wheel, the axis on which it turns is bent so as to form a vertical arm, and at the top again bent to a horizontal position where it forms a strong nut. A long screw works through this nut, and by its operation raises and lowers the wheel.

79,903.—Improved Fire Kindling.—Chas. Gaudin, Zoe Granier and J. Granier, San Francisco, Cal.:

I claim forming a fire kindling ball upon the end of an inflammable wick, for the purpose of ready ignition as herein shown and described.

79,954.—Ore Crusher, Grinder and Amalgamator.—John A. Collins, Virginia City, Nev.:

1. I claim the combination and arrangement of the cylinders C, crushing wheels D, axle E, and central plate F, with arms projecting downwards and supporting said axle, substantially as described.

2. The combination and arrangement of the driving-plate G, on the shaft H, the friction rollers N, on the arms of the revolving plate L, and the stationary plate K, above it, substantially as described.

3. The combination and arrangement of larger rollers L, with smaller S′, within the cylinder C, the former rolling upon the latter and upon the cylinder, but the latter or smaller rubbing and grinding against the cylinder as described.

This invention was fully described in our issue of Nov. 2d, 1867, page 276, Vol. XV.

80,014.—Improved Apple Corer and Slicer.—Isaac Rogers, West Chehalem, Oregon:

1. I claim the combination of the slide-bars F, cross-bars H, tube M, knives N, and rim O, with each other and with the guides or slides G, and parer-fork Q, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the adjustable guide P, with the rim O, and slide bars F, substantially as herein shown and described and for the purpose set forth.

3. The combination of the cross or foot-bar J, and levers I, with the bottom board A, and cross-bar H, of the sliding-bar F, substantially as herein shown and described and for the purpose set forth.

Notices of Recent Inventions.

79,425.—Improvement in Machine for Kiln Drying.—Ashbel B. Winegar, San Francisco, Cal.:

1. I claim a machine for drying salt and other substances, composed of the furnace A, pan or disk B, the radial arms G, G, spindles H, H, with the hoes or stirrers I, I, I, attached to them, with the movable bar J, for turning them in different directions, so as to continually stir and turn the salt in the pan or discharge it at will from the periphery, the whole constructed and arranged to operate substantially as herein described.

2. The sliding board or plate O, at the bottom of the hopper, operated by the spring P, cords S, lever T, and beveled pinion U, substantially as and for the purpose specified.

The object of this invention is to provide an improved kiln for drying salt and other substances that require to be kiln-dried before being reduced or prepared for market. It consists in the construction of a furnace, of masonry or iron, circular in form, or any other shape whose outlines and dimensions shall answer the purpose. Over the furnace is placed a drying-bed, or disk of iron or other material, the whole being surrounded by a rim, with the necessary discharge-opening. A suitable vertical driving-shaft, having its step in the center of the disk, is suspended by frame work above the furnace, by means of which a series of radial arms, having stirrers attached to them, is rotated.

In operating the machine, the salt or other article to be dried is admitted to the pan through the hopper, which discharges through the center. The stirrers are so constructed and arranged as to spread the substance evenly over the surface of the drying-bed. The machine may be so operated as to make it self-feeding and self-discharging in action. The discharge may also be effected into an elevator or other convenience by which it may be transported to the mill for grinding. The furnace may be so constructed that either fuel or steam may be used for drying.

77,880.—Carriage Spring.—Walter B. Higgins, San Francisco, Cal.:

I claim the combination of the springs D, D, with the wooden spring A, to form the connection of the same with the body of the carriage, substantially as described.

The object of this invention is to construct and attach springs to single and double wagons and carriages. It consists of a continuous wooden spring, combined with other springs of a spiral or elliptical form, or of any elastic material, which are placed at the front and rear ends of the wagon-body, and connect it to the continuous wooden spring. By this simple device a cheap wagon-body, with an ordinary spring attachment, may be made to ride easily, and without the jar occasioned by the occasional coming down to its bearing or axle. The danger of the breaking of springs when riding over a rough road is also greatly removed by this device. The springs will also last much longer and with much less cost for repairs, than when used without this device.

Recent Inventions.

New Hydraulic Mining Invention.—The Nevada *Transcript* described a new mining invention recently brought out in that city as follows: "We noticed yesterday at the shop of Crawford & Leavitt, on Main street, an ingenious combination of distributor and monitor for hydraulic mining, which promises to supersede everything of the kind heretofore in use. This invention, of John Jacobs, dispenses with the distributor, and is used without any hose whatever, making an immense saving. It throws water to any part of the horizon; a great desideratum in hydraulic mining; and allows at the same time all necessary dip, while it does not injure the stream like the "goose-neck." It is pronounced by good miners to be perfect. We learn that an 11-inch machine will be got up for exhibition at the State Fair. The one we have described was on its way to Quaker Hill for trial in Jacobs & Sargent's diggings. Mr. Jacobs has been over a year perfecting his invention, and filed a caveat several months ago at Washington.

In Rome, a city having 200,000 inhabitants, there is but one newspaper, and a poor one at that.

Capital and Labor—Can they Coöperate?—This important question is answered in a startling manner in the *Scientific Review* for June. That logicians and mathematicians would object to the argument can matter little, provided it he legally and commercially conclusive. It is attempted to demonstrate that a manufacturer whose capital in stock, plant, etc., is of the estimated value of 6,000*l.*, the profits thereon 600*l.* per annum, or 10 per cent., and who pays 3,000*l.* a year in wages, can, by the mere adoption of the coöperative principle, place himself in a position to pay 30 per cent. higher wages to his workmen, and obtain 13 per cent. instead of 10 per cent. for himself; or, in other words, that he can, with the advantages of the coöperative system, so divide the 600*l.* profit that *out of it* the workmen shall receive 900*l.*, and himself 780*l.* The benefits of coöperation have never before been put forward in so favorable a light, nor has it ever before been so satisfactorily proved that by means of coöperation the "loaves and fishes" can be so admirably manipulated, even in modern times.—*Exchange.*

If the *Review* will read and reflect upon what has been written and said upon this matter, there need be no "mystery" about it, whatever. The figures, impossible as it may appear, may be in spirit, if not in letter, approximately, if not fully realized, under the coöperative system. The result must of course be obtained from the increased *amount* of labor that may be obtained from the same number of workmen within the same time. If £900 in gold cannot be got out of £600, it is at least a very easy matter, under the coöperative system, to get £900 in value of labor, out of a cost, which, under the old system, would yield only £600 in value. There is nothing like giving a man an interest in his labor, over and above his wages. The effect is magical. It has been tried within the last three or four years, in almost all kinds of business, and in establishments employing from a few hundred dollars of capital up to millions; and never, so far as we have learned, has such an experiment worked disastrously to either capital or labor. With the coöperative system so successfully demonstrated as it has been within the last few years, it is astonishing that any intelligent class of laboring men can be induced to resort to the pernicious and unprofitable system of "strikes" to right either real or imaginary wrongs between labor and capital.

Mining Profits.—It would appear from statistics given in the commercial departments of our city papers that mining was on the average a largely losing business. For instance, we read that the dividends for the first half of the present year were only $904,000, while the assessments have been $732,200, thus giving a total profit to our incorporated companies of only $160,890, for the many aggregated millions invested.

These facts by no means submit a fair basis on which to fonnd a judgment with regard to the general condition of our mining interests. But very few of our best paying mines are incorporated; and when they are incorporated it is upon such an extensive basis as to leave margin for but a very small interest on the capital invested. People in this State when they have a really good mine, and are able to work it, are very seldom anxious to sell on terms that will admit of any profit in the investment to the purchasers.

Holders of mining stocks have been peculiarly unfortunate the past year, as will he seen by comparing the figures above given, with those for a corresponding period of last year, which may he stated as follows: Last year the aggregate dividends amounted to $1,983,200, and the assessments to only $332,280—leaving a general profit of $1,650,920. As will be seen, the dividends disbursed this year show a falling off of over $1,000,000 as against last year; at the same time, the assessments have been increased over $400,000.

Continental Life Insurance Company, 302 Montgomory street, corner of Pine.

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board

San Francisco, August 1, 1868.

City Stocks.

The market for miscellaneous stocks shows no improvement over last week. San Francisco Gas stock was dealt in to a limited extent at $77 per share. The usual monthly dividend is payable to-day. Considerable sales of Spring Valley Water stock were made at $66. The second installment of scrip issued by this company is payable to-day.

We call attention to the following interesting statements of two of our prosperous interior savings banks, as published in the *Commercial Herald* of this city:

Sacramento Savings Bank.—This institution was incorporated March 19, 1867. Its first semi-annual report was made January 1, 1868, and out of the earnings they dishursed a dividend of 1½ per cent. per month, free of Federal tax. The report for the six months ending July 1, 1868, just at hand, compare as follows with the previous report. For the latter term they pay to depositors a dividend of 1 per cent. per month:

	January 1, 1868.	July 1, 1868.	Increase.
Depositors	345	881	486
Deposits	$163,905 30	$429,929 14	$266,023 84
Loans	162,453 70	364,594 50	202,140 80
Gross Earnings	8,648 07	18,449 75	9,801 68
Reserve Fund	1,150 46	3,017 96	1,867 50
Expenses and Federal Tax	1,438 80	2,226 55	787 75
Cash on hand	9,472 80	118,063 43	108,590 65

Stockton Savings and Loan Society.—We are indebted to the Cashier, James Littlehale, for the following statement of the operations of the Stocktou Savings and Loan Society. The institution was incorporated August 12, 1867, and commenced business Septemher 21, 1867. The capital stock is $250,000, of which ten per cent. has been called in:

Capital stock paid in to June 30, 1868	$20,030 00
Open deposit accounts	287
Deposits	$181,167 72
Loans	141,410 74
Gross Earnings	11,388 29
Reserve Fund	3,000 00
Expenses and Taxes	4,261 93
Cash on hand	64,329 08

This is the first report rendered by the above society, and speaks well for the short time it has been in existence. For the term under review, a dividend of 1¼ per cent. per month has been declared on the capital stock paid in, and the same amount on deposits. The expenses have been much larger than they will be in the future, owing to the purchase of office fixtures, safe, etc.

Mining Share Market.

The mining share market has exhibited less animation this week, and for the most part stocks rule lower. The outside speculative transactions are less numerous than for some time past, and upon the whole the sales in the Board have fallen off considerably. In the absence of encouraging information as regards the developments in the lower levels of the various claims on the Comstock lode, necessitating additional outlays of money before largely increased returns are visible and can be estimated, we may look for a drooping market. The following remarks on this subject by a local paper are quite pertinent: "For ourselves, we do not believe there are any good reasons to warrant serious apprehensions as to the continued productiveness of this lode. That recent developments in the lower levels of certain claims along it have failed to disclose any heavy bodies of pay ore is admitted. Yet this has before happened, having almost invariably been followed aoon after by the discovery of rich deposits a little further down. The metalliferous masses in the Comstock vein lie, as in most masterly lodes, chiefly in honanzas, or chimneys, which geuerally have a slope iu the linear direction of the vein. Hence a vertical shaft sunk on a lode of this kind must necessarily pass through alternate sections of productive and barren veiu matter, as experience has shown to be the case in the Comstock mines."

Savage—sold to a considerable extent, declining from $136 to $130 50, advancing to $133 25, and closing yesterday at $133. Extracted 1,273 tons of ore during the week ending July 25th, showing an average assay value of $39 68 per ton. Of the above amount the south mine on the fourth station yielded 922 tons. Owing to necessary repairs the production is lighter than usual. In the north miue, on the fifth station, the main drift runs iu a mixture of quartz and porphyry, showing no ore; and the east cross-cut passed through the quartz found in the face a fortnight ago, and is now in porphyry looking like "east country." The west cross-cut, at 105 feet, encountered a soft seam of quartz and considerable water, which is uow being cleaned out. In the south mine, same level, the breasts are reported to look very fair, and show no material change. The south drift has been carried a few feet beyond the south line, and has been stopped for some days. The ore up to and beyond the liue is of very good quality, and twelve feet wide where the last cross-cut was made. This cross-cut has not yet reached the east clay, and the Snperintendent has great hopes of finding another seam of ore next to this clay. The sixth station drift has been started toward the ledge. The receipts of bullion to date for Jnly accouut foot np $224,000.

Hale & Norcross—has been less active than last week, though the sales have beeu large, advancing from $75 to $80, receding to $75 50, rising to $87 50, and closing at $88. The drift from the fifth station of the Savage extends five feet into this company's ground, and an average assay of ore from the face shows a yield of $68 86 to the ton. On the 27th of July the south drift in the lower level was in seventy feet from the main tunnel, leaving about 150 feet to reach the Savage line.

Crown Point—was in the market to a moderate extent, selling within a range of $86 50 and $90, and at the close realizing $89. No material change has takeu place in this mine since our last reference. A telegram of July 31st says, the 900 drift is in 99 feet, and running in hard rock. The returns of bullion to date for Jnly account aggregate $86,894 07.

Kentuck—advanced from $372 50 to $382 50, and closed at $384. The receipts of bullion from July 1st to 27th aggregate $83,758 26 against $58,001 82 same time in June, showing a gain for July of nearly $26,000. From September, 1866, to July, 1868, this company dishursed twenty-two dividends—one every month—amounting to $441 per share, or $9,284 per foot.

Yellow Jacket—was in better request, rising from $1 120 to $1,222 50, falling to $1,105, and closing at $1,177 50. It is reported that a very fair body of ore has been found on the 730 and 810 levels, and that from the latter they are at present extracting about 150 tons of ore per day. At the annual meeting, on the 20th of July, the following gentlemen were elected Trustees for the ensuing year: William Sharou, John B. Winters, Thomas Sunderland, Thomas G. Taylor and Charles Bonner.

Imperial—has been less active, selling at $105@108, then at $103, and closing at $107. Another shipment of $9,850 has been received, making a total of $33,255 37 so far for July account. A telegram of July 31st says—"Have made three feet in drift since yesterday; face in quartz and porphyry. Commenced to raise twenty feet south from main drift."

Chollar-Potosi—declined from $146 to $133, improved to $141, and closed at $142. Extracted 1,088 tons of ore from the Blue Wing stope dnring the week ending July 24th. The drift from the 1,000 level is in 104 feet from the incline, and from the 1,100 level the northeast drift is in 43 feet, and the sontheast drift 44 feet.....Ophm sold at $19 50@22, closing at $21 75. On the 29th of July the new shaft was 360 feet in depth, 347 feet being timbered.

Overman—was in fair request, selliug at $75 @80, and closing at $81. Extract about fifty tons of ore daily, and is said to be improving in quality and increasing in quantity as they go south on the 361 level....Segregoaten Belcher was in the market at $11@12, closing at $12. On the 10th of July $4,400 in bullion was received. Another remittance of bullion will soon be made.

Sierra Nevada—declined from $33 to $31, and closed at $35. Reports to the 24th of July state that the surface ore is still looking well, and that they will soon extract about sixty tons per day. On the 710 level the east drift is in twenty feet, and the west drift twenty-five feet. Here they fonud a clay wall, dipping to the east. A considerable flow of water washed ont some quartz, and it will take about two weeks before they can ascertain what it will amount to.

Daney levied an assessment of $2 per share on the 27th of July; and Lady Bryan $10 per share on the 25th of July.

The sales in the Board during the past week have been as follows: Open sessions, $514,327; regular sessions, $1,570,093. For the month of July, $8,478,968, against $9,078,063 in June.

Good for the Health.—All who are sick of the dust, noise and bustle of the business portion of the city, or are worn out with care and anxiety, will find a visit to Woodward's Gardens better for the health and spirits than any medicine, and more exhilarating than the Excellent. *

There has been filed in the Secretary of States' office, the resolutions and order of increase of the capital stock of the Central Pacific Railroad Company, from $10,000,000 to $100,000,000.

If your eyesight is beginning to fail, try Muller's Spectacles, No. 205 Montgomery street, Russ House Block. *

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE.
Alameda Coal, June 25, $1	Aug 4	Aug. 21
Amador Co., dividend, $6 per share	Payable July 29	
Apollo, Lander co., Nev., June 15, $10	July 17	Aug. 3*
Alpha Cons., Storey co., Nev., June 25, $5	July 27	Aug. 15
Adriatic, Storey co., Nev.	Special Meeting Aug. 15	
Adriatic, Storey co., Nev., May 20, $1	June 30	Aug. 17*
Belcher, Storey co., Nev., July 13 $25	Aug. 13	Sept 14
Bacon, Storey co., Nev., div.	Payable June 19	
Bear River, Nevada co., June 10, $1	July 29	Aug. 17*
Chipiouena, Mexico, July 9, $5	Aug. 13	Aug. 31*
Cherokee Flat R. G., Butte co., July 1, $5	Aug 4	Aug 21
Crown Point, dividend, $7 50	Payable July 11	
Daney, Lyon co, Nev., July 27, $2	Sept. 1	Sept. 20
Eclipse, Lander co., Nev., June 15, $10	July 17	Aug. 3*
Enterprise, Meadow Lake, July 11, $1	Aug. 11	Aug. 27
El Tesoro, Mex., June 18, 25c	July 20	August 16
Empire M. & M., Nev., dividend $6	Payable May 15	
Folsom St. & F. Pt R. R. Co., July 30, $5	Aug 29	Sept. 14*
Fogus, Amador co., June 3, $5	July 21	Aug. 12*
Gold Hill Tun., Storey co., Nev. July 18, $2	Sale Sept 9*	
Gold Hill Q M & M—dividend, $7 50	Payable July 13	
Golden Rule, Tuolumne co, div. 50c ₱ sh	Payable June 26*	
Hope Gravel, Nevada co, July 30, $1	Sept. 10	Oct. 5*
Hale & Norcross, Storey co., Nev., July 22, $10	Sale Sept 14	
Imperial, Storey co., Nev., div.	Payable June 18	
Kentuck, div., $25 per share	Payable July 20	
Kohler Bros., L. C, July 2, 25c	Aug. 6	Aug. 27
Lady Bryan, Storey co., July 25, $1	Payable immediately.	
La Victoire, Mariposa co., July 15, 50c	Aug. 18	Sept. 4
Morning Star, Alpine co., July 15, $2 50	Aug 17	Sept. 7
North Star, dividend, $5	Payable June 15	
Ophir, Storey co, Nev., June 15, $1	July 20	August 10
Pacific Unassessable, div.	Payable June 18	
Rising Star, Idaho Ter., June 23, $50	Aug 8	Sept 9
Rising Star, Idaho	Special Meeting Aug. 15	
Siempre Viva, Mex., June 15, 50c	July 31	August 17
Santiago, Silver City, dividend	Payable July 9	
Savage, Virginia, Nev, dividend, $15	Payable July 10	
Sierra Benos, Nevada, June 30, $5	July 30	Aug. 21
Spring Valley co., Nev.	Annual Meeting, Aug. 6	
Sand Spring Salt, dividend $1	Payable June 5	
United States, Storey co., Nev., June 29, $1	Aug. 3	Aug 19
Union, Storey co., Nev.	Annual Meeting, Aug. 10	
Virginia & C. H. Water Co.	Dividend, payable May 15	
Yosemite, Lander co., Nev., June 9, 75c	July 16	Aug. 5*

*Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. Stock and Exchange Board.

Friday Evening, July 31, 1868.

	Bid.	Asked.
Miscellaneous Stocks.		
United States Bonds, 5-20s	$ 77	79½
Legal Tender Notes	69¾	70
California State Bonds, 7s, 1857	90	95
San Francisco Bonds, 10s, 1851	102	103
San Francisco City Bonds, 6s, 1853	83½	—
San Francisco City and County Bonds, 6s, 1858	89	—
San Francisco City and Co. Sch'l B'ds, 7s, 1866	87½	—
San Francisco City and Co. Bonds, 7s, 1862	87	—
San Francisco City and Co. Bonds, 7s, 1864	84	85
San Francisco City and Co. Bonds, 7s, 1865	85	85
San Francisco City and Co. Judg. Bds. 7s, 1863	84	85½
San Francisco City and Co. Judg. Bds, 7s, 1864	84½	—
Sacramento City Bonds	23	25
Sacramento County Bonds, 8s	75	—
Marysville Bonds, 10s	75	85
Stockton City Bonds	70	85
Yuba County Bonds, 10s	75	80
Santa Clara County Bonds, 7s	78	85
Butte County Bonds, 10s, 1859	70	75
San Mateo County Bonds, 7s	75	77
California Steam Navigation Co	70½	—
Spring Valley Water Co	66	—
State Telegraph Co	25	30
Gas Companies.		
San Francisco Gas Co	76¾	—
Sacramento Gas Co	80	—
Railroads.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	75	77½
Central Railroad	59	60
North Beach and Mission Railroad	72¾	—
Front Street, Mission and Ocean Railroad	11	12
Banking Institutions.		
California, Loan and Savings Society	—	—
Pacific Bank	97½	—
The Bank of California	157	158
Insurance Companies.		
Firemans' Fund Insurance Co	85	86
Pacific Insurance Co	117	120
San Francisco Insurance Co	—	100
Merchants' Mutual Marine Insurance Co	470	483
California Insurance Co	1300	1400
Union Insurance Co	88	89
California Home Insurance Co	—	—
Home Mutual Insurance Co	19¾	20
Accidental Insurance Co	78	80
National Insurance Co	—	—
Builders' Insurance Co	90	—
Mining Stocks—Washoe District.		
Alpha	42	43
Baltimore American	—	—
Belcher	115	120
Bullion, G. H.	20	21
Crown Point	88½	89
Confidence	30	35
Chollar-Potosi	141	142
Daney	5	—
Exchequer	19	20
Empire Mill and Mining Co	119	120
Gould & Curry	105	106
Gold Hill Quartz	69	70
Hale & Norcross	88	90
Imperial	107	109
Kentuck	384	385
Lady Bryan	14	15
Ophir	22	23
Overman	81	82
Savage	133	135
Sierra Nevada	33	25
Yellow Jacket	1175	1180
Golden Rule, California	10	15

San Francisco Market Rates.

Wholesale Prices.

Friday, July 31, 1868.

Flour, Extra, ₱ bbl	$6 00	@$7 00
Do. Superfine	5 27	@ 5 75
Corn Meal, ₱ 100 lbs	3 25	@ 3 50
Wheat, ₱ 100 lbs	1 65	@ 1 80
Oats, ₱ 100 lbs	2 35	@ 2 50
Barley, ₱ 100 lbs	2 00	@ 2 45
Beans, ₱ 100 lbs	3 00	@10 00
Potatoes, ₱ 100 lbs	1 05	@ 1 25
Hay, ₱ ton	10 00	@15 00
Live Oak Wood, ₱ cord	9 00	@10 00
Beef, extra, dressed, ₱ lb	8	@ 10
Sheep, on foot	3 00	@ 3 50
Hogs, on foot, ₱ lb	5	@ 7
Hogs, dressed, ₱ lb	8	@ 10
Groceries, etc.		
Sugar, crushed, ₱ lb	14¾	@ 15
Do. China	10	@ 11½
Coffee, Costa Rica, ₱ lb	15½	@ 17
Do. Rio	—	@ 17
Tea, Japan, ₱ lb	65	@ 85
Do. Green	60	@ 1 25
Hawaiian Rice, ₱ lb	8	@ 9
China Rice, ₱ lb	6	@ 6¼
Coal Oil, ₱ gallon	40	@ 42½
Candles, ₱ lb	15	@ 18
Ranch Butter, ₱ lb	35	@ 40
Isthmus Butter, ₱ lb	30	@ 32½
Cheese, California, ₱ lb	13	@ 15
Eggs, ₱ dozen	35	@ 40
Lard, ₱ lb	15	@ 15
Ham and Bacon, ₱ lb	12	@ 16
Shoulders, ₱ lb	9	@ 10
Retail Prices.		
Butter, California, fresh, ₱ lb	40	@ 50
do. pickled, ₱ lb	25	@ 35
do. Oregon, ₱ lb	25	@ 35
do. New York, ₱ lb	35	@ 40
Cheese, ₱ lb	20	@ 25
Honey, ₱ lb	25	@ 30
Eggs, ₱ dozen	45	@ 50
Lard, ₱ lb	15	@ 17
Hams and Bacon, ₱ lb	23	@ 25
Cranberries, ₱ gallon	85	@ 1 00
Potatoes, ₱ lb	2	@ 5
Potatoes, Sweet, ₱ lb	3	@ 3
Tomatoes, ₱ lb	5	@ 6
Onions, ₱ lb	—	@ 5
Apples, No. 1, ₱ lb	4	@ 5
Pears, Table, ₱ lb	5	@ 7
Plums, dried, ₱ lb	11	@ 13
Peaches, dried, ₱ lb	10	@ 11
Oranges, ₱ dozen	75	@ 1 00
Lemons, ₱ dozen	1 00	@ 1 50
Chickens, apiece	50	@ 75
Turkeys, ₱ lb	20	@ 25
Soap, Pale and C. O.	7	@ 12
Soap, Castile, ₱ lb	15	@ 16

San Francisco Metal Market.

Prices for Invoices.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

Friday, July 31, 1868

Iron.—Duty: Pig, $9 per ton; Railroad, 600 ₱ 100 lbs; Bar 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@12½c ₱ lb; Plate, 1½c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2½ ₱ lb.

Scotch and English Pig Iron ₱ ton	$40 00	@$42 50
White Pig ₱ ton	38 00	@ 40 00
Refined Bar, bad assortment ₱ lb	— 03	@ — —
Refined Bar, good assortment, ₱ lb	— 04	@ — —
Boiler, No. 1 to 4	— 04¾	@ — —
Plate, No. 5 to 9	— —	@ — 04¼
Sheet, No. 10 to 13	— 04¾	@ — 5
Sheet, No. 14 to 20	— 05	@ — 5¾
Sheet, No. 24 to 27	— 05	@ — 05¾
Copper.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb		
Sheathing, ₱ lb	— 28	@ — 26
Sheathing, Yellow	— —	@ — 22
Sheathing, Old Yellow	— 11	@ — —
Bolts	— 21	@ — 22
Composition Nails	— 21	@ — 22
Tin Plates.—Duty: 25 ₱ cent. ad valorem.		
Plates, Charcoal, IX, ₱ box	12 50	@ 13 00
Plates, I C Charcoal	11 00	@ 11 50
Roofing Plates	10 50	@ 11 00
Banca Tin, Slabs, ₱ lb	— —	@ — 30
Steel.—English Cast Steel, ₱ lb	— —	@ — 15
Quicksilver.—₱ lb	— 55	@ — 50
Lead.—Pig, ₱ lb	— 7½	@ — 8
Sheet	— 10	@ — —
Pipe	— 11	@ — —
Bar	— 9	@ — 9¼
Zinc.—Sheets, ₱ lb	— —	@ — 9¾
Bonax.—California, ₱ lb	— 20	@ — 23

San Francisco Prices of Copper Ores.

San Francisco, July 31, 1868.

We give the following as an approximate price at which copper ores can now be sold in this city. There is no sale for ores which assay less than 12 per cent. The late reduction in price is on account of the advance of freight:

	Per ton.		Per ton.
12 per cent. ore	$16 00	22 per cent. ore	$43 56
13 " "	18 62	23 " "	46 46
14 " "	20 20	24 " "	49 33
15 " "	23 35	25 " "	52 22
16 " "	26 2	26 " "	55 11
17 " "	29 12	27 " "	58 00
18 " "	29 91	28 " "	60 80
19 " "	34 90	29 " "	63 77
20 " "	37 78	30 " "	66 66
21 " "	40 67	31 " "	69 55

These prices, we believe, will be found substantially correct, and can be realized at this date.

Art and Science.—Writers are quite too apt to use the terms *Art* and *Science* without proper discrimination and precision with regard to their exact meaning. In general, an art is that which depends on practice or performance, and science that which depends on abstract or speculative principles. Music is both an art and a science—the practice of music is an art; its theory is a science.

Pure science is built on self-evident truths,—as mathematics. But the term science is also applied to subjects which are founded upon merely generally acknowledged truths, as metaphysics, etc. Chemistry and physics are far from being pure sciences. They are generally said to be founded on experiment and observation; but in reality they are both founded upon mere assumptions. The first has for its foundation, and is dependent for its progress, upon the atomatic theory; the second is equally as dependent upon the theory that an etherial medium pervades all space. Yet both these facts are simply *assumed*, and have never been proved.

Theorizing often leads to important truths. In fact, it is the surest and readiest way to the inner courts of nature. Even a false theory may often lead to great truths; but the true philospher will abandon his theory the moment he obtains the evidence that it is unreliable.

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County.

Markleeville *Miner*, July 25th: The machinery for the new Kennedy quartz mill will all be finished this week, and the most of it is now on the ground. The boiler is being set, and all parts of the work is being pushed forward as fast as possible.

Amador County.

Dispatch, July 25th: The arch of the furnace at the Coney & Bigelow mine, used for roasting sulphurets, fell in a few days ago, causing considerablo delay and expense to the proprietors. It will be repaired and put in operation as soou as possihle.

Mariposa County.

Gazette, July 24th: The Oaks & Reese Co., Hunter's Vallcy, have been taking out some very rich rock lately.

Snediker & Co. are prospecting a quartz claim on the point of the mountain east of Mount Bullion. The vein is abont ten inches wide, and well defined. In working it with an arastra the prospect is good.

We were shown hy Mr. Brownfield, of Hornitos, two exceedingly handsome specimens of gold-bearing quartz. They weigh about $80, and were taken from the Duncan lead, near Hornitos, by Barcroft & Co.

Dave Morrow and Jerry Fenton are working a claim on Saxton's Creek, which would deter less energetic men. They havo to use a derrick to move the boulders, the smallest of which is about the size of a flour barrel. The claim pays, however, abont $4 a day to the hand, and occasionally they pick np a *chispa* of some ounces.

The *Alta* of this city, says: The Ryerson process continues to give the utmost satisfaction at the Bear Valley mill, and would have been in use at the Bentou mill but for the destruction of the Merced dam, and the financial tronbles of the Mariposa Co. The success of the Bear Valley mill in extracting $35, andeven $45 per ton, by the Ryerson amalgamator from the Josephine ore, which had not paid more than $8 by the old process, was on a scale too small to prove the richness of an extensive body of quartz.

Nevada County.

Transcript, July 23d: Mr. Hazlett has sold the Kansas claim to A. D. Allen, for $2,500. Work will commence immediately.

A friend writing from You Bet informs us that Capt. Atkins & Co., at Little York, have started up two sets of hydraulic claims and are working with fair prospects of taking out a large amount of money.

At You Bet, the Yuba Canal Co., it is expected, will shut the water out of their ditch in a few days, and afterwards mining operations will be confined to drifting in the blue lead. G. S. Brown's claim is paying as large as usual. Neece & West are also doing well. Ed. Williams has got good pay in the old Mallory claim, and at Hnnt's Hill they are taking out considerable money. There will be a great deal of prospecting done this season, and no doubt many good mines will be opened.

July 26th: We saw at the banking honse of Geo. W. Kidd & Co., yesterday, a beautiful bar of gold, valued at $5,600, which came from a set of diggings at Chalk Blnff, in Little York Township.

The Banner mine has shut down for the pnrpose of putting a new boiler up at the hoisting works. The old boiler commenced leaking so badly as to be nnfit for use. The new one will be four ft. in diameter.

Peters & Co. have located 15 claims, each 20 ft. front, and running from the Main Gnlch to the center of Mooney Flat Hill. The ground is west of Mooney Flat Ravine, and adjoins Cook & Co's ground.

July 27th: The Rothschilds Mining Co., composed of David Stevens and others, have located a claim of 3,000 ft. on a quartz ledge, at Lawton's Ranch, six miles south of Grass Valley.

Millenbrock & Co. have located 400 ft. on the extension of the Ypsilanti ledge at Randolph Flat, Rough & Ready Township.

A Chinese company, working a short distance below the suspension bridge, in the bed of Deer Creek, seem to be doing well. They have conveycd the water of the creek through a flume, and use it for a motive power to keep the bed of the creek upon which they are working dry. They have a large number of men employed, and are cleauing out the tailings to the bedrock very fast.

The miners about Birchville and French Corral are beginning to run short of water. The ditch supply of this locality carries about 4,000 inches, and the Americau Co. alone is running 1,100 inches, and a larger part of the water is used above Birchville.

On Wednesday morning about 10 o'clock, the flume of the South Yuba Canal Co., across Steep Hollow, came down with a crash. The flume was 275 ft. long and 60 ft. high. As it conveyed water for the supply of mining in this as well as other localities, operations have to be suspended until a new flume is built. The ditch conveying water from Deer Creek, will bring sufficient water to supply the town. The flume will be rebuilt in about eight or ten days.

Gazette, July 27th: Work was resumed on the Lucky mine last Thnrsday. The mine has been idle for some months.

July 28th: The spur wheel at the hoisting works of the Sneath and Clay mine, broke down yesterday moruing. Mulloy, who has charge of the works, has made arrangements to have another wheel cast at the Nevada Foundry, which will be completed in a few days, when the works will again he started up.

Grass Valley *National*, July 21st: Kaiser & Co. have located 1,000 ft. on an extension of the Garden City ledge, and organized the Nevada Mining Co. for the purpose of working the claim.

July 25th: We were shown to-day some samples of quartz taken from the seventh level of the New York Hill mine, which were the richest with which our eyes have been blessed for many a day. The mine is a splendid one, and is daily improving.

Excelsior.—A Meadow Lake correspondent of the Dutch Flat *Enquirer*, of July 25th, says: The Enterprise furnace and mill is ready for operation; the Trustees are expected here daily, and will appoint a Snperintendent, and take into consideration other matters preparatory to a season's operations. They have at the mill two month's run of good ore, hut the ability of the furnace to work it thoroughly or even profitably, is as yet uncertain.

The U. S. Grant Co. have struck a fine looking ledge in their lower tnnnel, at a depth of 80 ft. The Trustees are expected from San Francisco in a few days, to decide regarding the erection of a mill.

The Kentucky Co. has also tapped the ledge 100 ft. deep, eight feet wide; prospects flattering.

The Gold Run Co. have levied an assessment sufficient to pay all indebtedness, taxes, etc. Their mine is well prospected, by a tunnel running on the ledge 300 ft., and is not surpassed in richness hy any mine in the district. The Trustees have determined to suspend work until some process is put into operation that will work the ore thoroughly.

The Mohawk and Montreal Co. have a fine body of decomposed free-gold ore, at a depth of 230 feet, and the prospects throughout the mine are very flattering. They are putting a new 48-flue boiler in the mill, and another 5-stamp battery will be ready to start in a few days.

The Empire Co. will resume work this week. Their shaft is 35 ft. deep, the ledge five feet wide and very rich in free gold and sulphurets. Free gold can be seen in the pnre sulphurets as taken from the mine. They have out about 75 tons, of which, they will work 30 tons at the Enterprise soon.

The Green Emigrant Co. are at work day and night. Their shaft is 65 feet deep, the ledge five feet wide, the rock white, free gold and some sulphurets. It paid last season from $26 to $31 per ton, and the indications are better now than ever.

Many other mines in the district are just as good as those above mentioned, some of which have been located and partly prospected, others are subject to location.

There are five mills in the district which have proven that the ordinary process will not work this ore.

Placer County.

Dutch Flat *Enquirer*, July 25th: A correspondent at Gold Run furnishes the following interesting items: Moore, Taylor & Co., after a run of 20 days, cleaned up quite a handsome sum ... O. Harknes, of Cañon Creek, after a 20 days' run, cleaned up hetween $7,000 and $8,000. This is the largest clean up ever made in this District in the same length of time.... Abeel, Dunn & Co., after running 10 days, cleaned up at the rate of $50 per day.... There are quite a number of claims that have stopped work for the present season, on account of their ground being nearly worked out.... Carr, Harriman & Co., cleaned up after a run of twenty days the sum of $2,800. This claim is under the supervision of J. G. Brown.

Sierra County.

Downieville *Messenger*, July 25th: The Good Hope Co. are running the Montpelier Mill, to crnsh about 50 tons of rock from their ledge.

We understand that the boys mining in Woodchuck Ravine, Mohawk Valley, are getting a fair prospect. Judging from appearances the diggings in that valley will be valuable when developed.

The Monumental mining claim at Howland Flat, recently struck excellent pay, having taken out last week for the work of four shifts, 94 ounces, and for the following two shifts, 92 ounces of gold.

The Nip and Tuck Mining Co., near Mt. Pleasant, have their shaft down 250 feet, which takes them to the bed-rock. The bottom shows good gravel, and all their prospects are favorable. They have their main tunnel in 200 feet, and expect to get in the coming winter. They have fine steam hoisting works in first rate order.

We saw at the Banking House of H. Scammon, on Monday last, a nugget of gold from the Gold Lake diggings of Watson & Co., weighing over 23 ounces. This piece, together with about 25 ounces in pieces, weighing from one ounce down to pennyweights, was the result of one week's work of nine men.

The Kingom Bros., of Poverty Hill, have done remarkably well in their mining claim this year, having taken out about $20,000. There is a large amount of good ground in this vicinity, and when the drain tunnel is finished, 60 or 70 companies can work to good advantage. By another Spring the St. Louis Water Company will have their ditch in, which will make Poverty Hill, beyoud a doubt, one of the richest and liveliest mining camps in the mountains.

The *Alta*, of this city, says: The Ryerson process is to he introdnced at the Gold Valley mine, in Sierra County. That mine has for years proved rich in the assayers' crucible, but poor in the ordinary mode of amalgamation. It is said that the royalty of $5,000 demanded in advance for the privilege of using the Ryerson has stood much in its way. The general opinion of intelligent miners is that it is excellent for quartz in which the gold is found in extremely fine particles.

Siskiyou County.

Yreka *Union*, July 25th: John C. Klimper, who mines on the South Fork of Humbug, took out of his claim one day this week a handsome nugget weighing eleven ounces. A few weeks since Mr. Klimper found one weighing $50. These nuggets are very handsome and entirely frec from quartz or other foreign substance.

Tuolumne County.

Sonora *Democrat*, July 25th: We saw recently at Kelly's mill some very rich rock from the Van Tromp mine, near Columbia. The rock is of a whitish blue color, with black strata running through it, and shows a great deal of gold to the naked eye. Indeed we have seldom seen richer or better looking quartz. A shaft has been sunk on the mine to a depth of 75 feet, and the rock, to that depth, is all of the same character. Several tons has been crushed at the Summit Pass and Shanghai Mills, and has paid from $63 to $100 per ton. The vein is ahont two feet wide and very accessihle.

The flume of the Golden Rock Water Co's ditch, near Big Oak Flat, fell on the 9th, with a tremendous crash, crushing everything in its way, and creating a total wreck. The flnme was the most magnificent structure of the kind in this State. It was designed by G. W. Holt, and erected by Holt and Conrad in 1859, under contract with the G. R. W. Co., at a cost of $80,000. The water first passed through it to Big Oak Flat on the 29th of March, 1860. It was built of sugar pine mainly. The flume was 2,200 feet in length.

COLORADO.

Georgetown *Miner*, July 4th: The Herkimer is yielding a large quantity of rich argentiferous galena.... Work will soon be commenced on the Anglo Saxon lode.... A tunnel ii being driven to strike the Summit lode, on Griffith Mountain.... Bellamy, Hatch and Vance uncovered four fissure veins at East Argentine last week by washing the debris off the mountain.... Harris and Campbell are workiug the White lode, on Sherman Mountain. Their labors are being well repaid by the prodnction of a large quantity of first class ore.... The shaft on the Comet lode is now down betweeu 50 and 60 ft., carrying a body of very rich orc. Drifting will soon be commenced.... Stewart's smelting furnace is rapidly approaching completion.

Herrick, of the smelting works, has commenced the erection of a new cupel furnace.... Juo. T. Harris is raising some very valuable argentiferous galena from Elijah Hise lodc, on Sherman Mountain.... C. J. Goss is engaged in developing a new discovery, the Geo. B. Walker lode, on Brown Mountain. The vein is large and well defined, carrying a large body of ore.... The Policy lode, on Democrat Mountain, will be actively worked during the season.... Work has commenced on the Henry Ward Beecher lode on Democrat Mountain.... We have been shown some very fine specimens of ore from the Wm. Penn lode, on Democrat Mountain. Rigshy informs us that the vein is opening up finc with a large hody of first class oro.... Work has been resumed on the Parr lode, on Sherman Monntain.... David A. Griffith & Co. are engaged in driving a tunnel in Alpine Mountain. It is now in some 50 ft. and has already cnt a galena bearing vein. The tnnnel is named Daniel Drew.... Hill and King are opening a new discovery on Burrell Monntain, called the Woodhine. At a depth of 10 ft. they have from four to six inches of fine appearing mineral, that is increasing in quantity as work progresses.... Gnitens & Co. are actively working the Hercules lode on Brown Mountain. The vein has averaged, to a depth of 20 ft., 18 in. of argentiferous galena, and on Saturday last opened out to four feet in width of the quality of ore. The ore will yield $500 per ton, dressed.

Denver *Herald*, July 11th: In Gilpin County, gulch miners are wanted at $3.50 to $4, and lode miners at $3.25 to $5 per day.

Denver *News*, July 8th: The Antona mines are located about 40 miles west of Fort Sauders, and near the line of Colorado on what is called Antana river, about ten miles from its mouth. There had been four gulches discovered up to the 30th of June last, named as follows: Antana river, Beaver Creek, Horse Gulch, and Elk Gulch. The first has been prospected abont eight miles; the second about four miles; the third about two miles, and the last about one mile. Timber is plenty, grass abounds, and there is a good road to the mines. Spicer & Co. at the mouth of Horse Gulch, make $7.50 per day.

The placer claim of Taylor, Thompson & Co., at Helena, is worked night and day. A car load of dirt is washed every minute and a half. The pay streak presents a square front from 30 to 35 ft. deep, and no nnderlying bedrock yet nor the slightest indication of any. The weekly expenses average $2,200 in currency, and the net proceeds $6,000 in gold. Forty-five men are constantly employed. Ahout $100,000 was taken out of the claim last year; that amount will, of course, be greatly increased the present.

DACOTAH.

New Mexican, July 7th: Four or five arastras are being constructed and a quartz mill will he in operation hy the middle of July. Several parties have gone east to purchase mills for the redaction of the quartz, which will be working by next fall.

The placer diggings are being worked at considerable profit, paying from $5 to $30 per day to the hand. Rich placer diggings have recently been discovered 12 miles south of South Pass City, which are attracting considerable attention, and bid fair to yield a large quantity of gold.

That the country has great mineral wealth, there is not a particle of doubt, bnt it will take time to develop it.

The Virginia *Enterprise* has the following, dated South Pass City, July 22d: The Pioneer quartz mill of the Sweetwater mining country, Tozer & Eddy, proprietors, commenced crushing rock this afternoon from their claim on the Cariso ledge.

The Sweetwater *Mines* of July 3d, says: The first crushing of ore ever done in Sweetwater was done Friday, June 26th, at the splendid power arastra of Messrs. Fairfield, Bronson & Marshall.

IDAHO.

Lewiston *Journal*, July 4th: During the week, a 10-stamp mill, manufactnred by Goddard & Co., San Francisco, was shipped to Warren's Camp, for the Pioneer mill Co. The capacity of the mill will enable the company to crush 20 tons in 24 hours.

A party of five started for a prospecting trip in the mountains to the east of Oro Fino. This part of the country has been left unprospected, and there is every indication of a good mining district in that direction.

Both the Pioneer and Hic Jacet mills are now running. The Pioneer will soon have new and much larger machinery, with complete apparatus for the reduction of the ore. The Hic Jacet has a road already constructed to 14 of the best leads of the camp, and is ponnding away at the rock as fast as brought to them from these leads. The Sanderson & Co's arastra mill, will be on the ground next week. The Miners' mill is still in this city awaiting shipment.

The same paper states that C. A. Robeson has made another raise in San Francisco, and induced a party to prosecnte a search for his fabulous quartz lead. The editor thinks such expeditions a detriment

and a curse, tending to blight future attempts to discover new mining localities.

July 11th: A quartz lode has been discovered within about 30 miles of this place. The indications are that it is a positive lead, rich enough to work.

Owyhee *Avalanche*, July 18th: The Oro Fino steam hoisting works recently put in operation on the mine, works splendidly. The shafts and drifts were all filled with water, which would be got rid of last evening. Joe. Low, an able and experienced mining superintendent from Virginia, Nevada, has taken charge of the mine.

A correspondent of the Walla Walla *Statesman* writing from Warren's Diggings, says: The proper limits of this camp is about 13 miles in length, by about five in breadth; besides Miller's Camp and the mines of South and East Salmon Rivers, all draw their supplies from this place. We have now in operation one 5-stamp mill, crushing quartz, and one 10-stamp mill nearly completed.

The mills here have reduced the price of crushing to $20 per ton for gold, and $50 per ton for silver. In fact, we have but one mill where they have any furnace for reducing silver ore. Such a mill, properly conducted, with good, experienced amalgamators, would prove a richly paying business to the owners, besides being of great benefit to the quartz miners. For instance, a lead named the Alaska, was discovered here last week, which prospects $600 per ton in gold, and $1,500 in silver. A large proportion of this silver it is impossible to save with our present machinery process. The gold will pay well for the miller and miner. The Winfield Scott has yielded from $80 to $290 per ton. The W. B. Knott about $100, and the Capitol will probably yield about the same. These are the principal ledges being worked at present, but there are several companies on each. Preparations are now being made for opening several other veins, which the high price of reducing has caused to lie dormant until now.

The same paper says: Ex-Mayor Whitman, just down from Warren's Diggings, has left with us specimens of quartz taken from leads in that vicinity, which certainly give indications of being very rich.

MONTANA.

Helena *Post*, July 17th: From Rochester district we learn that everything is prosperous in that vicinity, new and rich discoveries being made almost daily. The Watseka Mill is kept abundantly supplied with rock, and is running regularly. James and Irviu are running an arastra on ore from the Dunderberg lead, and clean up, on an average, $33 to the ton. Among the richest of the late discoveries is that of the Income lead, the decomposed quartz from which has prospected as high as $2 to the pan. The C. F. Sisson lode, recently discovered by Mr. Matthews, has a crevice two feet in width. The ledge consists principally of decomposed rock, which yields 50 cents to pan. Mulvy & Co. have been running a drain ditch in Rochester Gulch with good prospects of being amply rewarded for their enterprise. They are now sinking a vertical shaft for the purpose of ascertaining the depth of the bedrock.

The new discovery at Cascade Gulch, 15 miles from Jefferson City, gave rise to quite a brisk stampede from this city on Wednesday, and some 30 claims were staked. Prospects of from three to ten cents to the pan are obtained. The pay streak lies some four feet from the surface, and it is from eight to 14 feet to bedrock. Timber and water in abundance can be easily procured. The miners' meeting for the organization of the district is to be held on Sunday.

Hubbard & Co's bedrock drain, at Emigrant Gulch, commenced last spring, has been constructed a distance of 350 ft., and has reached a point 30 ft. below the surface, and probably not more than ten feet above bedrock. The gravel through which it is now being run, prospects 2½ cents to the pan. About eight miles above the mouth of the gulch, several companies are stripping and sluicing, and making $18 per day to the man, in coarse gold, resembling that of Trinity Gulch.

The correspondent from German Gulch says: German Gulch is now principally worked by ground-sluicing and piping, 14 companies owning nearly the whole gulch above lower town. The California Flume Co. have a splendid flume, and get rich pay, an experimental clean up yielding over $800, to only three riffles in a week's run. A steam derrick will soon take the place of the one now worked by hand in this claim. F. Brown & Co. are averaging $15 to the hand, with their flume. Alfield & Co., and Julius Pohl & Co., are making preparations for a big bedrock clean up, in ground sluicing off acres of ground.

Capt. J. P. Hillis & Co. cleaned up $1,272, ten days ago, the result of a two weeks' run upon top dirt, from Last Chance Bar at Diamond City.... Big boulders and beaver dam begs seriously interfere with the practical working of the Wilson Creek mines.... King & Gillette's bedrock flume, below Diamond City, being supplied with an abundance of water, is rapidly increasing in length, but has not yet reached bedrock.... Benton Gulch, seven miles from Diamond, in the direction of the Deep Creek country, is creating some excitement in the vicinity of Confederate.... Good diggings are reported to have been struck over beyond Georgetown, on Tenderfoot Gulch, at its junction with Cañon Creek.... Marley's ditch, from Cañon Creek to Howe's Gulch, opposite Georgetown, was completed and the water turned in day before yesterday.... The mill of A. Hauauer, on the Thompson lode, at Cable, commenced operations yesterday.... The Plymouth G. & S. M. Co., of Montana, contemplates putting up a 10-stamp mill in Greenhorn Gulch, for the purpose of crushing rock from the Wild Pilgrim, War Eagle, or Gem lodes. The machinery of the mill is adapted to 20 stamps, and this number will eventually be used if the enterprise proves a success.

The Owyhee *Avalanche* says: The report is that Phillipsburgh, Flint Creek District, Montana, is a failure.

The St. Louis and Montana Mining Co's mill at that place had ceased work, $41,000 in arrears. Wabus, Parks, Pucket, Bradley, Dagenhart, and many others, are flat broke. It is now very certain that there is no positive ledge there.

NEVADA.

Humboldt.

Winnemucca *Argent*, July 23d: There are some 16 mining districts in this county, all of which are known to be coursed with many kinds of mineral veins—the chief being those of silver.

The impetus which the railroad will impart to the development of the native resources of Humboldt County can scarcely be over-estimated. Gold, silver, copper, lead and salt will be the leading mineral exports, though a variety of others will swell the list, as they are known to exist.

The Golconda mine, in Gold Run district, is one of the remarkable deposits of silver ore in Nevada. The vein is from five to ten ft. wide and easily mined, very little blasting being required. The company's 8-stamp water mill, at Fairview, is far more than supplied with ore, and the last clean-up was shipped from here on the 15th inst. There were 2,376 ozs. crude bullion, from a run of five days, and is estimated worth about $1 per oz. It is shipped in a crude state, therefore its value is only approximated by returns of previous lots forwarded. The cost of mining, hauling and milling does not reach an average of $15 per ton.

The Winnemucca correspondent of the Virginia *Enterprise* of July 24th, says: The Montezuma works, at Oreana, J. C. Fall & Co's two mills at Unionville, and the Golconda mill at Fairview, are all constantly at work with large profits; while Holt's mill at this place, and the Etna at Dun Glen, are at work, mostly with some success. Gold Run and Battle Mountain districts are among the most promising of silver districts. The ledges are large, easily mined at small expense, and ore from different ledges pays well by mill process, as shown by repeated crushing at the Golconda mill. The Union Series Co. are making a mine of a large and rich vein in Winnemucca Mountain, three miles from town.

Pahranagat.

Virginia *Enterprise*, July 28th: Judge Burns, of this city, left last night by the overland route for White Pine. As a sad duty before taking his departure he exhibited to us a letter from a friend, informing him that they have got the "big thing" out there. Their first class rock pays $8,000 per ton—second class $1,000. We have not heard the yield of the third class, but it is doubtless immense, and the bedrock rich for miles around.

Reese River.

Austin *Reveille*, July 18th: This morning Gen. Page brought into our office a chunk of ore from the Keystone claim in the district of White Pine, which is the finest sample of horn silver ore we have seen from the district. The piece weighed 33 lbs., and was estimated to be worth $10 a pound. As large a sum as $200 had been offered for the lump, but the offer was rejected by the owners. There are spots in the piece of almost pure horn silver, into which holes had been bored with a common brace and bit.

A handsome ledge of sulphuret ore was cut this morning in the shaft of the Toiyabe Co. at the depth of 210 feet. At the point where it was cut the ledge is eight inches thick and of promising appearance. An assay of a sample of the ore made by Boalt & Stetefeldt gave a yield of $202.62 per ton.

Boalt & Stetefeldt received to-day 2,236 ounces of crude bullion for smelting and assaying.

The Manhattan mill produced for the week ending this date 27,172 ozs. of crude bullion.

The 53 tons of ore from the Garrison mine in the Cortez district, yielded 23 bars of bullion of the value of $19,474.62. The bullion is of very low grade.

Yesterday afternoon some 2,300 ozs. of crude bullion were brought into this city from Rigby's mill in the district of San Antonio.

July 20th: The mill of the Combination Co. in Silver Bend district, is running its whole battery of 40 stamps, and is producing daily bullion of the value of $2,200.

For some cause the mill of the Silver Peak and Red Mountain Co. has been delayed beyond the time anticipated for its opening, but the latest report fixes the time of its opening two or three weeks hence. There is a large amount of gold bearing ore ready for the mill.

July 22d: The Combination Co's mill is now turning out some fine bullion, and the yield is quite prolific. On Sunday five bars were melted, and yesterday four. Some 20 bars have already been turned out during the past eight or nine days. The company's hoisting works are now fully repaired, and steam was got up for the first time on Monday. Tuesday the engine was set to work drawing out the vast quantity of water which has accumulated in the shaft.

July 23d: The 4-stamp mill of Dr. Young recently erected in Columbus district, has been set to work crushing ore. We learned this morning from a miner from Ione district that several mines were producing excellent ore for the Knickerbocker mill, which had been repaired and commenced running this week. The mill company owns the Indianapolis ledge, which is yielding a fair amount of fine ore, and the Victory and Storm King, owned by other parties, are also producing regularly lots of excellent ore. Besides these ledges the owners of several others were working them with advantage, and were adding to the stock of ore for the Knickerbocker mill.

We were informed by Gen. Page, who returned to this city from White Pine district on Saturday morning, that prospecting and mining were carried on in the liveliest spirit. Treasure Hill, on which the claims are located, is several miles long, and it contained nearly as many locations as Lander Hill. A considerable number of the claims showed good ore. The Eberhardt South, the Keystone, and the Aurora had produced masses of rich ore; the amount taken out of the former claim was estimated at upwards of 100 tons. It was opened to the depth of 20 feet, and developed a great face of remarkable looking ore.

Nevada *Transcript*, July 27th: A crushing of 53 tons of ore from the Garrison mine in Cortez district, Nevada, produced bullion of the value of $19,474. This shows a yield of $370 per ton.

Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Virginia *Enterprise*, July 20th: A water-wheel for Birdsall & Carpenter's mill, at Dayton, 30 feet in diameter, 5 inches thick in the rim, 14 inches wide, and weighing 5 tons and 500 pounds, has just been cast at the Gold Hill Foundry.

The Twin mine, at Silver City, is furnishing sufficient ore to keep the Sherman Mill, five stamps, and the Eagle Arastra Mill in constant operation. The rock is principally gold-bearing and pays very well by being screened and judiciously assorted.

July 25th: The Overman Co. are taking out a large amount of ore in their 361-foot level which assays over $30 per ton. The Vivian mill is now crushing for them, and they will shortly set the Excelsior mill to crushing the same quality of ore.

The Bonner on the Gould & Curry shaft has attained a depth of 1,000 feet. At this depth they find the rock tolerably soft with favorable indications of ore. They are still extracting a large quantity of very fair ore from their old surface workings. The Confidence Mining Co. shipped $3,350 worth of bullion to San Francisco on the 18th inst. The new drift at the 900-foot level of the Crown Point mine is over 60 feet, and running in soft rock.

Evans' & Co's mill, situated at the foot of Cedar Hill, has been in operation some three days on ore from the Sacramento mine. It works satisfactorily in every respect.

Wells, Fargo & Co., shipped during the past week from their offices in this city and Gold Hill, 13,818 pounds of assayed bullion, valued at $353,195 04.

Trespass, July 25th: The 5-stamp Sherman mill is kept constantly at work on rock from the Twin mine, situated at Silver, as is also the Eagle Arastra mill, both under the management of Milton Mygatt, Esq. The large mill of Joseph Trench has been idle for some time, owing to the scarcity of ore, but the Sherman and Eagle have their own ore near at hand and are not likely soon to shut down for want of rock.

Gold Hill *News*, July 24th: There was shipped from Wells, Fargo & Co's Gold Hill office this morning, 43 bars of bullion, weighing 3,690 pounds, and of the assayed value of $85,716 26.

The July receipts of the Savage Mining Co., from the 1st to the 21st, aggregate $114,509. About 1,480 tons of ore per week is now extracted, averaging $38 47 per ton.

The new shaft of the Ophir Co. is now down to the depth of about 350 feet. They have comparatively little water to contend with, but find the rock very hard.

Gold Hill Branch Assay Office of E. Ruhling & Co., received this morning for melting and assay, 4,659 ounces crude bullion.

July 25th: There was shipped from Wells, Fargo & Co's Gold Hill office this morning 7 sacks of bullion, weighing 512 pounds, and of the assayed value of $16,862 32.

Gold Hill Branch Assay office of E. Ruhling & Co., received this morning for melting and assay, 8,045 ounces crude bullion.

OREGON.

Dalles *Mountaineer*, July 17th: Mr. Judy reports that gold has been found in the vicinity of the new settlement in Ochoco Valley. Near Cañon City, Mr. Wolfinger employs 40 men, and his claims are paying better than ever before. The hydraulic diggings at Marysville are yielding well.

Eugene *Journal:* Some prospectors in Jackson County, sunk several prospect holes on Cayote Creek, and found a prospect sufficient to warrant them in the belief that their claims would pay from $8 to $10 per day to the hand, when worked properly.

Portland *Oregonian*, July 18th: The party of miners who left this city some months ago, on a prospecting expedition to the Stickeen River and other streams to the north, returned here by the steamer Active, having made no discoveries of gold anywhere. They report the country barren and the streams altogether destitute of deposits of earth or gravel.

A friend just from the mines of Idaho and Eastern Oregon, represents the mines of that county to be extremely dull, the miners being mostly without water to carry on operations with. There has been no water of consequence since early in the spring. Great numbers are leaving, some going to other mines, others returning to Oregon and California, while many are going overland to the States. Those who have had water, have been doing nearly as well as usual. In the regions of Shasta and Willow Creek, few men are staying with their claims, waiting for fall rains.

NEW MEXICO.

Santa Fe *New Mexican*, July 7th: The ditch for carrying water to the mines near Fort Garland is almost completed.

The news from the Moreno mines continues favorable. Work upon the claims is progressing, and gold in large quantities taken out daily. When the ditch is completed from Red River, there will be employment for thousands who are now idle for want of water. In the meantime, the country surrounding is being thoroughly prospected, and many new diggings discovered.

The Pinos Altos mines are doing well. Several large shipments of gold have been lately made, and the mills are pounding away day and night. Several furnaces have recently been erected for the purpose of testing the silver ore so plentiful in that locality, and large results are anticipated.

India Rubber is a wonderfully elastic material, and can be stretched to an infinite variety of shapes and uses. It is singular that no enthusiast has attempted to make a collection of the different articles manufactured from this gum: they would stock a tolerably large cabinet. The latest adaptation of this accommodating substance is about to be made by a firm in Bridgeport, Conn., who propose to build coaches and carriages with india rubber bodies. This is a capital idea, and might with still greater advantage be applied to city stages and horse-cars. There would then, perhaps, be really always "room for one more."

The profits of the *London Times* for the last year are reported to have reached the large sum of $500,000.

Mining and Scientific Press.

W. B. EWER.....SENIOR EDITOR.

C. W. M. SMITH. W. B. EWER. A. T. DEWEY.

DEWEY & CO., Publishers.

OFFICE—No. 505 Clay street, corner of Sansome, 2d floor.

Terms of Subscription:

One copy, per annum, in advance.....$5 00
One copy, six months, in advance..... 3 00
☞ For sale by Carriers and Newsdealers. ☜

WRITERS should be cautious about addressing correspondence relating to the business or interests of a firm to an individual member thereof, whose absence at the time might cause delay.

Our Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

MR. A. C. KNOX, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

DR. L. G. YATES is our duly authorized traveling agent. July 6, 1867.

MR. A. B. BUTLER is a duly authorized traveling agent and correspondent for this paper. July 15, 1867.

Resident Agents.

CENTRAL CITY, C. T.—Messrs. Richards & Crane, of the City Book Store, Main street, will act as our agents.

GEORGETOWN, C. T.—John A. Lafferty, Postmaster, is our agent in this place.

DENVER CITY, C. T.—Messrs. Woolworth & Moffat, are our agents for this place.

CHEYENNE, D. T.—Mr. Robert Beers is our authorized agent for this place.

OMAHA, N. T.—Messrs. Barkalow & Brothers, are our agents for this place.

San Francisco:

Saturday Morning, Aug. 1, 1868.

CEREALIS, Napa.—The remarks you allude to, which appeared in a San Francisco daily, respecting it being premature to form an opinion as to the probable yield of the current year's harvest in England, and that probably the telegraphic reports of the favorable prospects there, have only a bearing operation in view, is not founded on a very deep knowledge of the circumstances which in England produce serious fluctuations in the corn markets; some of which, for your information, we will hereafter allude to. The paragraph under notice, described the accounts received of the English wheat prospects, during May and June, as being unfavorable. In the most favorable seasons, in England, the wheat plant invariably looks *sickly* during the month of May; nor does the plant receive a healthy character, if drouthy weather occurs, for a rather lengthy period. The sickly character described is usually denominated, among English farmers, as "spayning," and is caused by the plant, at this period of its growth, ceasing to derive any material nourishment from its coronal or seed-roots, or those by means of which it had been nourished previously; the top or deep roots succeed, which penetrates the soil to a considerable depth, and so possessing a larger area for obtaining its food. Respecting anticipation of the future harvest, excepting in extreme cases of climatic vicissitudes, no serious efforts are attempted to estimate the future harvest yield, until the month of July, at which time the wheat plant is in flower, and when it is always in a critical period. If fair weather prevails at that season, the wheat harvest of the year will, *cæteris paribus*, almost invariably prove good; the exception only occurring on the occasion of an extraordinarily wet reaping season following, which very rarely happens in years when the flowering season has proved favorable. So well known are the facts named, that the term "weather markets" is commonly applied to the corn markets held for about six or eight weeks of the months of July and August. The facts noted are worth the careful attention of the wheat growers of California. We subjoin by way of illustration of the popular opinion in England as to the appearance of wheat at the time of spayning, the following doggrel quatrain:

"If you go and look at your wheat in May,
You will come weeping away;
If you go again in June,
You'll come away with a merry tune."

SINAPIS, Santa Clara.—The statement made respecting the value of mustard-seed in Liverpool and Paris, is totally erroneous. The value, on an average, in Liverpool, does not exceed six cents per pound, in place of twenty-four and thirty cents, as announced by some projectors. The brown, or as it is usually called in this State, wild mustard seed, if placed in the market in good condition, will usually obtain a price thirty per cent. higher than the white, or common garden mustard-seed. This arises from the circumstance that the white mustard-seed contains nearly double the weight of a mucilaginous oil, as compared with the wild variety, *(sinapis nigra)*.

The Institute Pavilion.

The Pavilion in which is to be held the forthcoming Exhibition of the Mechanics' Institute, is now completed and open for the reception of goods. This edifice, covering upwards of 70,000 superficial feet, and rising over 80 feet from base to ridge, has been completed in just 52 working days; although, as the carpenters commenced almost simultaneously with the parties engaged in grading the ground, but few men could be put upon the work during the first week or ten days. The dispatch with which the work has been done is fully commensurate with the skill manifested in the design. Mechanics are now engaged in setting the boilers which are to furnish steam for the motors. The boilers are placed in a suitable room outside of the main structure. We notice that they bear the card of the Miners' Foundry as makers.

The motors will consist of three engines, to be furnished, one each, by the Pacific, Union and Miners' foundries.

Exhibitors should make all possible haste in getting their goods into the Pavilion and ready for exhibition. The Fair will be opened promptly upon the day set—next Saturday—and it is especially desirable that everything shall be in readiness by that day, so that exhibitors may obtain the full benefit of all the time allowed them, and the public find the exhibition complete in all its details, on the first opening.

Among the novelties not before noticed as coming in, we may mention the Coffin & Standish Steam Plow, with which our readers are already quite familiar, and which is further noticed in another column of the present issue.

Mr. Newman, of San José, will exhibit the first piece of silk ever manufactured in this State, and will make an exhibition of the entire process of silk manufacture from the hatching of the eggs, up through the reeling of the silk from the cocoons, and the weaving of the silk into dress goods. He will have a loom at work upon a wide piece of taffetee, from thirty to forty inches wide. Five or six hands will be constantly employed in this interesting department.

Mr. Prevost will also make a fine exhibition of silk worms and cocoons.

Mr. Hallidie is already putting up in the Pavilion a wire sash cord machine, for making sash-cord for windows.

Capt. Cox will also exhibit one of his machines for working cement gravel.

The restaurant privilege has been sold to Nick Mathiesen, a caterer of considerable reputation, who announces that he will fit up splendid accommodations.

MULTIPLICATION EXTRAORDINARY.—Two hundred and forty cocoons of the best quality weigh about one pound. Suppose one-half of these to contain females; there will then be one hundred and twenty. Each of these will deposit, say, five hundred eggs; we have then sixty thousand eggs. If these eggs all produce worms, and those worms all make their cocoons, we have, as the year's result from the single pound, *two hundred and fifty pounds* of cocoons. The calculation for the second year, made from the same data, shows a yield for that year, of 62,500 pounds,—or thirty-one and a quarter tons! Suppose each pound produces, for the next year, an ounce of eggs,—for a few thousand either way will make but little difference, and we will be reasonable,—we have 62,500 ounces of eggs as the product of the third year. These eggs, at only $5 an ounce, are worth in the market $300,000,—knocking off the odd thousands here as before;—a very tolerable three years' profit on the outlay. Perhaps it would be as well, however, for those of our readers who may become excited by the above figures, *to hatch their first crop*, at least, before counting the rest.

PROSPERITY OF SAN FRANCISCO.—We do not know of a better evidence of the prosperity which exists among the masses of this city, than is afforded by the regular exhibits of our saving societies. Probably no city in the world can produce so favorable a record in this particular as San Francisco. In a population of not much over 130,000, our saving institutions at the present time exhibit a volume of $20,000,000 of gold. Three years ago the amount was less than $7,000,000; it has increased $3,000,000 within the last six months. The increase of the past year has been at a time when there has been a most unusual activity in the purchase of homesteads among the laboring class of people. These homestead associations are themselves nothing more or less than saving institutions, where the purchaser lays by ten, fifteen or twenty dollars per month, as he may be able, to purchase a lot on which to build a house of his own. There is no other city in the world where so large a proportion of its population own their own homes, as this; and that proportion is constantly increasing in magnitude. The usefulness to the masses of saving institutions is nowhere so apparent as in San Francisco, and it is with pleasure we observe that a movement has already been made to secure their establishment in the interior towns. The facilities which they offer to persons of small means to employ their savings at reasonable rates and with sure returns, cannot be equaled by any other mode of investment.

THE CHINESE MISSION.—We had the pleasure of a call, on Thursday, from Hon. J. Ross Browne, Minister to China, and Col. C. D. Poston, formerly of Arizona, but late of Washington, who accompanies the embassy as Commissioner of Agriculture. They leave on the steamer of Monday. We yesterday learned that Baron Richthofen, will also accompany the mission in the character of geologist. The object of his mission will be a thorough and scientific examination into the mineral resources of China. The importance and propriety of such a commission did not become apparent until it was too late to secure a salaried appointment from Washington. To meet this emergency a number of wealthy gentlemen of this city have raised the means necessary to defray the expenses of the Commission, and he will sail with Messrs. Browne and Poston on Monday.

"OVERLAND MONTHLY" FOR AUGUST.—The publishers have laid a copy of this magazine upon our table. It fully sustains the promise of the opening number. Almost everybody will find in it something worth reading. The pioneer will be interested in "A Day with the Cow-Column;" the traveler in "Scalping as a Fine Art;" and art-lovers in No. 2 of "Art-Beginnings on the Pacific." Various other articles with attractive titles appear in the Table of Contents; but the late hour forbids us at this moment further to make examination. The publication is a credit to our city and State; and we trust it will be generally supported.

SCHOOL OF MINING AT CAMBRIDGE.—By reference to advertisement in another column, it will be noticed that the course of instruction in the Department of Mining and Practical Geology, of Harvard University, will be continued on an enlarged scale during the approaching collegiate year. This department is now under the immediate charge of Prof. J. D. Whitney, late of the California Geological Survey.

TICKETS for the Mechanics' Fair are now for sale at the bookstores and by members of the Board of Managers. Price of season ticket for single person, $3; for gentleman and lady, $5; childrens' season ticket, $1.50; single admission, 50 cents; children, 25 cents. The Managers announce that they have received encouragement beyond their expectations, and anticipate the most successful exhibition ever held in this city.

Colorado Ores.

The Colorado *Mining Journal* of recent date says, that as the overland railroad is approaching that neighborhood, much interest is beginning to be felt with regard to the practicability of sending the richer ores of that district to the East, for treatment, instead of paying the large prices that are charged at the reduction works in Colorado. The railroad offers to take ores from Cheyenne to Newark, New Jersey, (where extensive reduction works have been built) for $39 per ton. With a branch railroad from that point to the mines, but a small additional tax only would have to be added for their through transit. Ores are reduced at the Newark Smelting and Reduction Works, as per card of proprietors, as follows:

ARGENTIFEROUS LEAD ORES.

Above 55 per cent. lead	$35.00 Currency.
Below 55 per cent. lead	40.00 Currency.
Silver or gold ores	80.00 Gold.
Sulphurets (per ton of 2,000 pounds)	60.00 Gold.

Ninety-nine per cent. of the assay value of the precious metals will be delivered. Loss on lead from 12 to 15 per cent.

It will be seen from the above figures that the cost of treatment of sulphurets is much higher than the cost in this State. The process employed at Newark is not given. We infer, however, that it is by chlorination. The guarantee of ninety-nine per cent., however, is impracticable, and cannot be done on a working scale at any price. Colorado no doubt contains large quantities of very rich ores, yielding from $200 to $500 and over, per ton, nearly all of which requires careful treatment. These ores can be mined for from $5 to $20 per ton, and the time will soon come when they can be transported to the East for from $40 to $50 per ton. When that time arrives, the overland railroad will do a large amount of that class of transportation, or the owners of reduction works in Colorado must greatly reduce their present rates. The same remarks will hold good throughout much of the State of Nevada. The completion of the railroad will, in one way or the other, give a most wonderful impetus to the development of the mines throughout the entire region of country, from the Black Hills to the Sierra Nevada.

COX'S CEMENT MACHINE.—Many of our readers, who have never seen this machine, will be pleased to learn that one of them will be exhibited at the Fair, where all who visit the city, during the coming month, will have ample opportunity to examine its construction, and witness its mode of operation. The economy of its use in working cemented gravel has now been fully established. One of these machines has been employed for a long time by Mr. Allen Oliver, at Jamestown, in Tuolumne County. It is now at work upon cement tailings, from gravel which has been run through sluices. Fifty tons of these tailings are put through the machine every twelve hours, from which two dollars per ton is obtained at a cost of the labor of one man. But a small quantity of water is used, and that at a cost of only five cents an inch. There are untold millions of tons of such tailings in the State, which would pay all the way from twenty cents to two dollars and upward per ton. Even at the former rate, such tailings will afford a good business.

Mr. D. T. Hughes, formerly an assayer of this city, is running one of these machines near the same locality, but upon gravel as it is taken from the mine. He is putting through nearly as much gravel as Mr. Oliver. From what we can learn of the success which attends the working of this machine, we think it is something well worth the attention of our cement miners.

THE TRACK-LAYER.—We learn from our Washington agent, that a patent has been allowed to Mr. Robertson, for his track-laying machine.

The Steam Plow at the Fair.

We are authorized by the Board of Managers of the Sixth Industrial Exhibition, to state that the steam plow invented by Coffin & Standish, of Martinez, will be placed on exhibition during the early days of the approaching Fair. As it will probably remain in this city only about one week, on account of pending engagements at Stockton, farmers and others from the northern and central portions of the State, especially those who wish to see and examine this important and valuable California invention, will do well to make their visit to the city and Fair during the first week of the Exhibition. Practical exhibitions of the working of the plow will be given, daily, if deemed expedient, in the open portion of the square adjoining the Pavilion.

The plow will be brought to the city from Martinez, on a deck lighter, in tow of a steamer, and will arrive here early the ensuing week. The proprietors will give a practical demonstration of its locomotive capacity by allowing it to work its own way up to the Pavilion from the point of landing, if the proper authorities will grant the privilege, which, by all means, should be done.

This is regarded by those who have carefully examined into its merits as one of the most valuable inventions of the day, and one which promises to save millions of dollars to this State alone. A large amount of money has already been expended in the necessary experimental trials toward bringing it to its present state of perfection; and it is due to the enterprise and energy of Capt. O. C. Coffin, who has invested nearly all his ready means in the enterprise, and to the mechanical skill, ingenuity and perseverance of Mr. P. H. Standish, the inventor, that California will be able, at the coming Fair, to exhibit to the world an invention which bids fair to work a complete revolution in that most useful instrument, the plow; which, until now, has remained, in all its essential principles, almost precisely the same instrument which has been used from the earliest times of recorded history.

All who feel an interest in such an invention should embrace the present opportunity to examine and judge for themselves of its practical merits. The present machine, as we have already intimated, has been constructed without reference to weight or compactness, merely to demonstrate the practicability of the principle. We are pleased to learn, however, that three or four permits to build the plow have already been sold to parties in this State, for a royalty of $1,000 each, so that the invention will soon be put to a thorough test in the field. The inventors have determined to sell rights for all the different States, with the exception of California and Illinois, which two States they have reserved for themselves.

Mining Sales in Placer County.—We learn that the Walton gold mines and property near Ophir, in Placer county, has recently been sold, through the agency of Capt. Holdredge, of this city, for the sum of $20,000. It was purchased by parties in this city. The Green Emigrant has also been sold for $15,000 to C. T. Fay. Both of these mines were sold at less than their estimated value. The Captain has now for sale the famous Black ledge, in the same vicinity.

Water on the Desert.—Parties employed by the Pacific Railroad in boring on the desert to the east of the Truckee, have struck water strongly impregnated with sulphur and salt. It is fresh water that they are in search of, and the simple fact that they find any water at all, within a reasonable depth, is an encouragement to persevere until they get such as they want.

Wanted—At this office, the postoffice address of Enraght Mussey, late of Gold Hill, Nevada.

It is estimated that fully 50,000 people come into Boston daily, by the various railroad and car routes, for the transaction of business.

Notice.—Persons interested in locating Mineral Lands in California or Nevada, will do well to observe the advertisement of N. Wescoatt, S. & M. E., in another column.

Co-Operative Union Store.—This is becoming one of the most useful institutions in the city, and the Mechanic and Laboring Man fully appreciate it. They are now enabled to buy their Groceries and Provisions 20 per cent. cheaper than ever before, and the very best articles in the market. The store is located at 115 Sutter street, Lick House Block, San Francisco. 6v16-ainn

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As if by magic comes repose,
Forget thy pain, forget thy woes.

This harmless Remedy stops all pain instantly, and leaves no stain. The tongue cannot mention any physical pain that this Paint will not remove in five minutes. Whether a frightful Burn, a grinding Colic, or a simple Mosquito bite, the result proves an entire relief from distress at any spot or place where applied. It is perfectly adapted not only for all pain, but also permanently cures the worst Ulcers, Piles, Cancers or breaking out on any part of the body, and all internal complaints, by an outward application to the parts affected.

MOORE'S PAIN ANNIHILATOR, a standard remedy for Catarrh, Cold in the Head, Inflamed Eyes, etc., sold by all druggists.

G. H. MOORE, Inventor and Sole Proprietor, 632 Market street, San Francisco, Cal. 21v16-3m

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Save Your Teeth.—Drs. Jessup & Beers, over Tucker's jewelry store, are now making a specialty of filling the fangs of dead Teeth, and building up broken crowns with *pure gold*—thus restoring them to their original usefulness and beauty. They are also using Nitrous Oxide for the painless extraction of Teeth, when so desired—the only absolutely safe anæsthetic ever discovered. In breathing it, it acts as a gentle stimulant, without undue excitement,—the sensation produced being truly delightful, the effect upon the lungs healthful, and in its results positively free from all danger. Prepared and administered daily at the Dental Rooms of Messrs. JESSUP & BEERS, corner Montgomery and Sutter streets, San Francisco. 16v16tf

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☞TO THE PUBLIC.☜

Hear what Bussey has got to say in defence of his Lock:

Whereas, Certain parties in San Francisco and elsewhere, are conniving to destroy the reputation of the Bussey Lock, in order to establish other Locks in which they are interested; and

Whereas, It is asserted that a certain individual now in this city will put up $5,000 against the same amount, that he can pick the Bussey Lock in eight hours' time; but makes Bussey this generous proposition: That he does not wish to injure him in any way, and if he will pay a certain amount of money the Lock will not be exposed. Wants Money, is in the market at the highest bidder!

Now Bussey wishes it distinctly understood that he pays no man to keep quiet. Bussey's Improved Combination Lock will be on exhibition at the Mechanics' Fair, in competition with other Locks for the First Premium, and a challenge will be given then and there, to the world in general, and H. S. Folger in particular. The security of the Lock will be endorsed in any amount, from $500 to $50,000. The man presuming to pick it will be required to endorse his skill in a corresponding amount.

3v17-4w

NORTH AMERICA

Life Insurance Company.

Usual Restrictions on Occupation and Travel

ABOLISHED!

Policies of this Company are guaranteed by the State of New York, which is true of no other Company on this Coast.

The most Responsible and Liberal Company in the World!

J. A. EATON & CO.,

Managers Pacific Branch, 302 Montgomery st.

20v14nr3p SAN FRANCISCO.

School of Mining

—AND—

PRACTICAL GEOLOGY

OF HARVARD UNIVERSITY.

The course of instruction in the department of Mining and Practical Geology of Harvard University, will be continued, on an enlarged scale, during the collegiate year 1868-9. The examination for admission will be held on THURSDAY and FRIDAY, September 17th and 18th.

For further information and for Circulars, apply to

PROF. J. D. WHITNEY,
Dean of the Faculty.

Cambridge, Mass., July 3, 1868. 5v17-1m

SAN FRANCISCO

Pioneer Screen Works,

JOHN W. QUICK, Manufacturer,

Removed to Vulcan Iron Works, Fremont street, between Mission and Howard, San Francisco.

Screen Punching in all its branches, at rates reduced from 25 to 40 per cent less than the established rates. I can furnish Improved Quartz Screens several sizes finer than any Screen ever punched, giving universal satisfaction, and for strength, cheapness and durability are not excelled. Also, Punched Screens of all sizes and fineness made from all qualities of material, for Quartz, Cement, Flour and Rice Mills, etc. Screen Punching made a specialty; therefore millmen forwarding their orders to me will receive none but the best. Orders solicited.

N. B.—J. W. QUICK is the only competent and successful manufacturer of Screens in the State, having made Screens for the principal mills in this State and adjoining Territories for many years. Quartz mill owners using punched Screens which have universally failed to give satisfaction, when visiting the Mechanics' Institute Fair, will please call and see me. 5v17-1y

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Women's Co-opsrativs Union Store,

29 Second Street, opposite Jessie.

Ladies', Gents' and Children's Furnishing Goods; Children's Suits; Infants' Wardrobes; Fancy Articles, etc., etc. Shirts made to order. Mending done. Orders from Steamboats, Hotels, and the country respectfully solicited.

Heuston, Hastings & Co.,

ARE THE

Fashionable Clothiers

OF

San Francisco.

SPECIALTIES.

PRICE AND GUARANTEE.

The largest and most varied stock of Gentlemen's Clothing, Furnishing Goods, Trunks, Sacs and Valises, on the Pacific Coast. Every article sold, being of our own manufacture, is guaranteed. Having contracts direct with European and American manufacturers of piece goods, we thereby effect a saving of fully 50 per cent. in wholesale dealers' profits, and are thus able to offer superior goods at less than second-rate prices.

STYLES.

Having agents in London and Paris, we introduce the new styles in San Francisco simultaneously with their appearance in New York.

GOODS MADE TO ORDER.

For the accommodation of such as may desire, we have secured the services of a celebrated European cutter, and are prepared to make up piece goods in a style superior to any other house on the coast. Shirts, Ties, Collars, etc., made to order at short notice.

COUNTRY ORDERS.

Goods forwarded by Express to any part of the Pacific Coast on receipt of orders and measures; send for directions for measurement.

Heuston, Hastings & Co.,

Lick House Block,

San Francisco.

5v17-8m

American Saw Company.



MANUFACTURERS OF

EMERSON'S PATENT

Movable-Tooth and Perforated Circular Saws,

Perforated Mulay, Mill and Cross-Cut Saws, with Adjustable Sockets.

SAW-GUMMERS, SWAGES, CANT DOGS,

Etc., have established an office for the sale of the above articles, at

No. 606 Front street, San Francisco.

☞Descriptive Pamphlets will be forwarded to any one giving us their address. 5v17tf

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Pacific Chemical Works.

Office 619 Montgomery Street.

Cyanide of Potassium.

Messrs. Falkenau & Hanks—Gentlemen:—I have, in the last year's experience in milling gold ores, had occasion to examine, with care, the effects of the Cyanide of Potassium in promoting amalgamation. I am bound to say, as the result of my observations and experience, that it is a most powerful agent in amalgamation. With its aid and that of a little sodium and amalgam, copper plates are immediately mercurialized with ease and certainty, and the effects of nitric acid entirely avoided. The solvent power of Cyanide of Potassium on metallic oxides is well known to chemists, and its effects in brightening the dull surface of unhealthy coppers in mill sluices is something wonderful to witness. Opinions are divided among amalgamators as to the durability of this effect, as compared with the ordinary mode of treatment by the brush, etc.; but my own judgment points clearly to the remarkable power as being a subject well worthy of the careful and candid examination of all who have an interest in the management of gold quartz mines. Of its efficiency and usefulness in pan workings no one, I believe, entertains a doubt.

Yours truly, PROF. B. SILLIMAN.

Manufactured by FALKENAU & HANKS. Office No. 619 Montgomery street, San Francisco.

EMPIRE FOUNDRY,

294 Howard street, near Beale, San Francisco.

CASTINGS OF EVERY DESCRIPTION

Made to order with neatness and dispatch. Particular attention given to the manufacture of SHIPS' IRONS.

5v17qr S. A. YOUSE, Proprietor.

Builders' Insurance Company—OFFICE IN THE BUILDING OF THE CALIFORNIA SAVINGS BANK, California street, one door from Sansome street.

☞FIRE AND MARINE INSURANCE. 10v14t9pqr

Support Home Manufactures.

California Pioneer Fuse

MANUFACTURING COMPANY,

MANUFACTURERS OF

HOSE AND TAPE FUSE,

A New and Superior Article for Blasting in very wet ground, or under water.

Great difficulty has heretofore been experienced by miners, and others in the use of Fuse, which has been subjected to deterioration from exposure to dampness during transportation, or during the great length of time which has passed between its manufacture and use. In addition to great painstaking in the manufacture of the California-made Fuse, the above and many similar objections are entirely obviated, and the operator can always depend with certainty upon the burning of his fuse.

It is often the case that extra lengths are required, as exploding tunnels, etc., longer than is furnished in the imported article. Fuse of every desired length or size can be made to especial order, at the above manufactory.

Manufactory, - - - - Potrero, San Francisco.

JOS. POWNING, Sec'y. JAS. EVA, Supt.

17v16-9ptf

PACIFIC

Rolling Mill and Forge Co.,

SAN FRANCISCO, CAL.

Established for the Manufacture of

RAILROAD AND OTHER IRON

—AND—

Every Variety of Shafting,

Embracing ALL SIZES of

Steamboat Shafts, Cranks, Pistons and Connecting Rods, Car and Locomotive Axles and Frames

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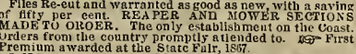
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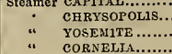
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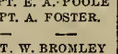
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The boiling-point of water is 212 degrees of Fahrenheit, at which temperature the expansive power of the steam exactly balances the pressure of the atmosphere. The barometer shows that the atmospheric pressure varies, and so the boiling point of water will not be constant; the higher the mercury the heavier the air, and therefore the hotter our boiling water. On the other hand, if we go picnicing up a mountain, and wish to take refreshment at a hight where there is considerably less air above us, we may boil eggs and make tea, but the eggs will not be done, and the tea will not be good, for the water, though boiling, will not be as hot as boiling water at a lower level.

Liquids do not get any hotter after they begin to boil, however long or with whatever violence the boiling is continued. The fact is of importance in domestic economy, particularly in cookery, and attention to it would save much fuel. Soups made to boil in a gentle way by the application of a moderate heat, are just as hot as when they are made to boil on a strong fire with the greatest violence. Again, when water in a copper is once brought to the boiling point, the fire may be reduced, as having no further effect in raising its temperature.

If steam be confined in an iron boiler or other vessel, it may be made intensely hot, and so expanded as to burst any contrivance known to man. It will thus dissolve bones and other substances.

Where the steam is not confined, as in an ordinary kettle, it is of the same temperature as the water (212 degrees) and all the additional heat applied to the water goes simply to make a larger quantity of steam. A given volume of water—a quart, let us say—when it changes into steam, occupies a space 1,694 times greater that it does when liquid. In seeking to take up this extra space, it exerts tremendous force, pushing before it the mighty steam engine, or in a smaller way lifting the lid from the kettle. But the extra bulk of steam, as compared with water, is only gained by its taking up a large quantity of heat; the steam, indeed, is no hotter than the water, but it contains the heat in a latent form—wrapped up, stowed away, as it were. When the steam is reconverted into water, exactly the same amount of heat is given out again.

NEW USES OF ELECTRO-MAGNETISM.—There are many who look forward to a time when electro-megnetism will supersede steam as a motive-power. It is quite possible that electricity may be employed as a motive force, but the amount of mechanical work which it is capable of doing is comparatively small, and in the present state of knowledge, it is enormously expensive. There are circumstances, however, in which cost is a matter of small consideration, and in these electricity may sometimes be turned to useful account. A lady may wish for a sewing machine, but the labor of driving it is more than she can exert. For such, M. Cazal has invented an electro-magnetic machine which we have no doubt will be competent to do the work with light fabrics. The details of this machine we must defer until a more complete account than we have yet met with comes to hand. For ornamentation, too, electricity is coming into use. You may see at a fashionable ball at Paris a lady on the top of whose head sits a butterfly or humming-bird. The fly and the bird flutter their wings in the most natural way possible. How is it managed? Why, within the chignon are concealed a small battery and a minute Rhumkorff coil. On the bosom of another may be a brooch, with a head upon it, the eyes of which turn in all directions. This, too, is accomplished by the use of a battery and coil so minute as to be concealed within the brooch itself. These, and more useful things, small batteries for curative purposes, easily carried about the person, are the inventions of M. Trouvé. The batteries of zinc excited by solution of sulphate of mercury are inclosed in vulcanite cells, so that the exciting solution cannot escape to the damage of the wearer.

SOME suppose that every learned man is an educated man. No such thing. The man is educated who knows himself, and takes accurate common sense views of men and things around him. Some very learned men are the greatest fools in the world; the reason is they are not educated men. Learning is only the means, not the end; its value consists in giving the means of acquiring the use of that which, properly managed, enlightens the mind.

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THE WET PROCESS FOR POOR ORES.

Luiz, a town on the Rhine, near Godesberg, is a mining town with a history running back a thousand years. This town has been for the last two centuries the center of the copper, lead, and bleude trade of the district; and about a mile up the valley stands the old smelting works in which Herr Rhodius, the father of the present proprietor, invented and patented the "wet process" for the reduction of poor copper by means of sulphuric and muriatic acids, which, although known to many, might be much more generally and successfully practiced elsewhere, as by it ores containing 1 per cent. are profitably worked in Rhineland, the Hartz Mountains, and elsewhere in Germany. The process may be briefly described as follows:

The poor sulphides and the poor oxides, only, are worked by the wet or acid processes, the richer ores are all smelted by the old process. First, the poor sulphides, from ¾ to 3¼ per cent., are roasted in a cupola furnace, about ten by three feet, charged with alternate layers of ore and fuel, and when drawn from the bottom and freed from sulphur are crushed, thrown into a masonwork basin, about twenty feet long by five feet deep, having a false bottom of horizontal layers of basalt, supported by basalt pillars, about one foot high. Blende, slightly roasted and crushed, is placed on the hearth of a retort furnace, and raised to a high heat; air is forced into the retort, to furnish oxygen to convert the sulphur in the blende into sulphurous acid gas; this, passing through the chimney, enters the vats beneath the crushed ore, mixed on its way with steam from a boiler, and passing through the apparatus between the horizontal basalt, penetrates the mass of crushed ore, and coming in contact with the oxides of copper and other metals formed from the sulphides by roasting, the oxygen is absorbed and soluble sulphates are produced, and fall in solution to the bottom of the vats. From this the fluid is pumped whilst hot into wooden tanks built firmly in clay, containing scrap and cast iron, and the copper precipitated as cement copper, containing 35 to 40 per cent. of metal, the iron going into solution in its stead. The zinc blende left in the retorts is utilized; the liquor remaining is concentrated by being passed into shallow receivers, and crystallized sulphate of iron (copperas) obtained. The mother liquor has a still further use.

The *poor oxides*, principally malachite or blue carbonate, which look so rich, and so often deceive, contain only on an average one to two per cent. of copper, which is extracted by muriatic acid. The ores are broken, placed in large vats, and weak muriatic acid poured over the mineral, which is allowed to remain subject to its action ten days. The carbonates are converted into chlorides, and precipitated as before described. The minerals in Prussia are the exclusive property of the Crown; the royalty is two per cent. on the produce. The responsible officers of the State report periodically on the mines; the report is public property. Frauds are thus avoided in statements affecting working prospects and in returns,—advantages which cannot be over estimated by foreign and distant shareholders—indeed, by all interested in mining industry.

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5. *Rotary Machines.*—The Rotating Cylinder (Strom-setz Maschine); Rotating Wheel (Setz-Rud); The Dolly Tub; Aufcrman's Dry Jigger.

B. *Concentration of Ore Sands and Slimes*

6. *Assorting of Sands.*—The Labyrinth; Borlace's Slimo Separator; Ph. Hofmann's Separator; Rittinger's Funnel or Pointed Box; Rittinger's Spitz-Lutte.

7. *Feeding of Concentrator.*—Feeding Boxes; Stationary Feed-Box; Rotating Feeder.

8. *Stationary Concentrators.*—Hand Buddle; Sleeping Table; Rack; Sweeping Tables; Rouud Buddle; Concavo Buddle; Blanket Tables.

9. *Percussion Tables.*—Percussion Tables; German Percussion Tablo; Continual Percussion Table; Hunter's Continuul Percussion Table; Varney's Percussion Buddle.

10. *Oscillating and Shaking Tables.*—Borlace's Concentrator; Hendy's Concentrator; Hungerford's Concentrator; Barron's Concentrator.

11. *Steady Moving Concentrators.*—Steady Moving Concentrators; Concave Rotary Buddle; Convex Rotary Buddle; Burton's Table; Self-Discharging Blankets; Horizontal Moving Blanket.

IV.—SPECIAL CONCENTRATION.

1. *Concentration of Gold Ores.*—Concentration of Gold Ores; Amalgam of Gold Quartz; Amalgamation and Grinding; Combined Concentration and Amalgamation; Treatment of Concentrated Stuff.

2. *Concentration of Silver Ores.*—Concentration of Silver Ores; Concentration Works; Cost of Concentration; Concentration of Tailings.

3. *Concentration of Lead and other Ores.*—Concentration of Lead, Copper and other Ores; Vuluo of Ores for Concentration.

V.—CHLORINATION.

Extraction of Gold from Sulphurets or Arsenicals by Chloriaation; Assay of Gold Sulphurets by Chlorination; Chlorination Process for Sulphurets; Loss of Gold in Roasting; Single Roasting Furnaces; Double Furnaces; Mechanical Furnaces; The Roasting Operation; Roasting with Salt.

Chlorination.—Damping of the Roasted Ore; Sifting; Production of Chlorine Gas; Lixiviation; The Precipitating Vat; The Precipitation; Cost of the Chlorination Process per ton of Ore; Remarks.

Other Methods of Dissolving and Precipitating the Gold from Sulphurets.—Chlorination at Reichenstein; Chlorination at Schemnitz; Calvert's Method for Auriferous Quartz; Extraction of Gold, Silver and Copper.

PRICE..... $7.50 per copy.

Sent by mail, and sold wholesale and retail, by DEWEY & CO., publishers, office MINING AND SCIENTIFIC PRESS, San Francisco.

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ESTABLISHED..... MAY, 1860.

Mining and Scientific Press

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TRANSPORTING MEAT.—A refrigerating car, constructed on a new principle, recently patented, loaded at Chicago on the 14th of June, with the meat of animals killed on the previous day, arrived in Boston on the 19th, and was opened on Monday, the 22d. The meat was found to be in as good state of preservation as that usually brought into market from Brighton and Cambridge. It is stated that meat preserved and transported in this manner, can be sold at an exceedingly low rate.

MORE STEEL RAILS.—The Camden and Amboy Company have ordered a thousand tons of steel rails, from Sheffield, Eag., which they are now receiving.

New Mining Advertisements.

Bear River Mining Company, Nevada County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the tenth day of June, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No Certificate.	No. shares.	Amount.
A G Flor	1	50	$50 00
Wesley Henderson	2	50	50 00
W F Siringer	3	50	50 00
H McCormick	not issued	662	662 00
C Jones	not issued	662	662 00

And in accordance with law, and an order of the Board of Trustees, made on the tenth day of June, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, on the seventeenth day of August, 1868, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. BUFFINGTON, Secretary.

Office, Room 87 New Merchants' Exchange, California street, San Francisco. aul

Office of the Folsom Street and Fort Point Railroad and Tunnel Company, southwest corner of Montgomery and California streets, Room No. 16, San Francisco.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-eighth day of July, 1868, an assessment of five dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to Caleb T. Fay, Esq., at the office of the Company.

Any shares of stock upon which said assessment shall remain unpaid on the twenty-ninth day of August, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fourteenth day of September, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

aul JOS. M WOOD, Secretary.

Hope Gravel Mining Company. Location of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of July, 1868, an assessment (No. 25) of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at his office, No. 533 Kearny street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on Thursday, the tenth day of September, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fifth (5th) day of October, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary.

Office, No. 533 Kearny street, corner of Sacramento, San Francisco, California. Office hours from 12 to 2 P. M. nul

Mining Notices--Continued.

Adriatic Gold and Silver Mining Company, Flowery District, Storey County, Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the twenlieth day of May, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificates.	No. Shares.	Amount.
M J Newmark	507	30	$30 00
Daniel Meyer	93	50	50 00
Daniel Meyer	251	35	35 00
N Luning	114	10	10 00
Thomas S Russell	190	10	10 00
Estate of Henry Dreschfeld	302	176	176 00
Estate of Henry Dreschfeld	324	25	25 00
Estate of Henry Dreschfeld	393	5	5 00
Estate of Henry Dreschfeld	427	61	61 00
Estate of Henry Dreschfeld	466	50	50 00
Edward Cohn	450	25	25 00
J L Schroeder	428	75	75 00
L Rosenbaum	503	222	222 00
H Schmidt	492	5	5 00
H Schmidt	494	5	5 00
H Schmidt	493	10	10 00
J J Robbins	489	10	10 00
J J Robbins	499	10	10 00
J J Robbins	506	5	5 00
J S Burgess	513	50	50 00
M Waterman	499	30	30 00
R W Kind	440	5	5 00
R W Kind	441	10	10 00
R W Kind	479	10	10 00
Jas Adelsdorfer	224	15	15 00
B Gattel	352	10	10 00
B Gattel	359	10	10 00
B Gattel	360	10	10 00
B Gattel	533	10	10 00

And in accordance with law, and an order of the Board of Trustees, made on the twentieth day of May, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the sales-room of Maurice Doro & Co., auctioneers, No. 327 Montgomery street, San Francisco, on the sixteenth day of July, 1868, at the hour of 11 o'clock A. M. of said day, for cash, in U. S. gold coin, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

PAUL NEUMANN, Secretary.

Office, No. 411 California street. jy4

POSTPONEMENT.—The above sale is hereby postponed until Friday, the thirty-first day of July, 1868, at the same hour and place. By order of the Board of Trustees.

PAUL NEUMANN, Secretary.

San Francisco, July 11, 1868. jy18

POSTPONEMENT.—The above sale is hereby postponed until Monday, the seventeenth day of August, 1868, at the same hour and place. By order of the Board of Trustees.

PAUL NEUMAN, Secretary.

San Francisco, July 31, 1868. aul

Apollo Gold and Silver Mining Company, Lander County, Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the fifteenth day of June, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
C H Light	21	93	$93 75
Fred Leppien	98	12½	125 00
Geo F Sharp	53	6	60 00
H P Hilbreth	115	11	110 00
Mrs B A And	124	47 21-32	476 56
Jacob Bartz	123	13	130 00
A A Rand	135	1030 15-32	10304 00

And in accordance with law, and an order of the Board of Trustees, made on the fifteenth day of June, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, by Jones & Bendixen, auctioneers, on the third day of August, 1868, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

D. H. CROWE, Secretary.

Office, No. 228 Clay street San Francisco. jy18

Chiploocna Mining Company—District of Ures, Sonora, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the ninth day of July, 1868, an assessment of five ($5) dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirteenth day of August, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirty-first day of August, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary.

Office, 318 California street, up-stairs, San Francisco. jy11

Eclipse Gold and Silver Mining Company, Lander County, Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the fifteenth (15th) day of June, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
C E McLane	143	10	$100 00
C E McLane	144	10	100 00
C E McLane	145	5	50 00
A A Rand	151	1535	15,350 00
J H Foster	5	1	10 00

And in accordance with law, and an order of the Board of Trustees, made on the fifteenth (15th) day of June, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, by Jones & Bendixen, auctioneers, on the third day of August, 1868, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. A. DRINKHOUSE, Secretary.

Office, 228 Clay street. jy18

Gold Hill Tunneling Gold and Silver Mining Company.—Location: Gold Hill Mining District, County of Storey, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of July, 1868, an assessment (No. 10) of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, R. Wegener, 414 California street, San Francisco, Cal., or to the Superintendent, H. Huguet, Gold Hill, Nevada.

Any stock upon which said assessment shall remain unpaid on the twenty-first day of August, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the ninth day of September, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. WEGENER, Secretary.

Office, 414 California street, San Francisco. jy25

Caution!

Whitman Gold and Silver Mining Company. Location of Works: Indian Springs District, Lyon County, Nevada.

Notice is hereby given, that the following named shares in the capital stock of the Whitman Gold and Silver Mining Company, designated by the number of certificate of each parcel of said stock, were sold as by law provided, at public auction, on the fifteenth day of July, 1868, for delinquent assessment thereon, and will not be transferred by said Company:

No. Certificate	101	No. Shares	5
" "	245	" "	30
" "	269	" "	15
" "	268	" "	15
" "	269	" "	20

T. W. COLBURN, Secretary,
Whitman O. & S. M. Co.

San Francisco, July 16, 1868. jy18

Yosemite Consolidated Mining Company.—Location of Works: Santa Fe District, Lander County, Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the ninth day of June, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Rowle, G W	177	100	$75 00
Brandow, Peter	161	100	75 00
Brandow, Peter	182	110	82 50
Gillis, Joseph	181	40	30 00
Ouysl, Chas F	178	100	75 00
Hawk, Nathan	179	20	15 00
Mathews, Amos	55	25	18 75
Mathews, Amos	56	25	18 75
Mathews, John	180	10	7 50
Mayes, George	170	10	7 50
Spence, Wm A	169	15	11 25

And in accordance with law, and an order of the Board of Trustees, made on the ninth (9th) day of June, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Doro & Co., No. 327 Montgomery street, San Francisco, on Wednesday, the fifth day of August, 1868, at the hour of 12 o'clock, noon, of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

DAVID WILDER, Secretary.

Office, No. 533 Kearny street, corner of Sacramento street, San Francisco, Cal. Office hours from 12 to 2 P. M. jy18

Postponements and Alterations.—Secretaries are requested to give notice of postponements, or alteration which they may desire made in their advertisements at their earliest convenience. New advertisements should be handed in as early as possible.

PATENT OFFICE REPORTS, from 1843 to 1847, MECHANICAL, are wanted for duplicate copies at this office. Parties having them for sale will please state price, and address DEWEY & CO., Mining and Scientific Press office, San Francisco.

Machinery.

VARNEY'S
PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumferenco as before. Thus it is constantly passing in a regular bow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the samo principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles aro rapidly and completely absorbed.

Mill men are invited to examine these pans and setlers for themselves, at the **PACIFIC FOUNDERY,**

1v1 San Francisco.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,

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Notice to Miners,
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M. PRAO IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG,

8v13-1y Stove Store. No. 125 Clay street, below Davis.



REMOVAL.

E. O. HUNT'S

Manufactory of

Windmills, Horse-Powers and Pumps,

Has been removed from the old stand on Second street, to

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Next above Stuart and south of Mission st, San Francisco.

Hunt's Patent Wind-Mills, Tread Horse-Powers, Sweep Horse-Powers, (for one or four horses), Sawing Machines, Pumps of all kinds for shallow or deep wells,—including Hunt's Submerged Pump, Hunt's Globe Pump, and Hunt's Single and Double-Acting Pump.

Pumping Machines and general Machinery kept constantly on hand and built to order.

Also, Water Tanks of all sizes.

Having put up large new buildings specially for my business, with greatly increased facilities in the way of room and steam power, I shall be able to build everything in my line at greatly reduced rates.

All desirous of procuring water for irrigating or other purposes, are invited to examine my articles before purchasing elsewhere.

2v16 **E. O. HUNT, Proprietor.**

OIL STOVES!

MORRILL'S

Petroleum and Universal Oil Stoves

Have proved themselves a superior substitute for Wood and Coal Stoves, in that they work quicker, are neater, bake and broil better, are MORE ECONOMICAL generally. They are portable, can be used in any room, with or without chimney, as they emit no smoke, soot or ashes. There are nine different sizes, designed for barbers, dentists, and other mechanical purposes—as well as for cooking. They are perfectly safe.

I now offer a reward of **$100** for every Petrolcum Stove exploded by Naphtha delivered at my store, 18 Geary street, where they are for sale by

M. B. BULLARD,

Proprietor of Petrolcum Stove for California, and Agent for Universal Oil Stove for Pacific Coast.

N. B.—Petroleum Stoves burn Naphtha converted into a gas. Universal Oil Stoves burn Naphtha, Benzine, or Coal Oil, with non-illuminating flame and light on a wick as easy as a lamp. 21v16 3m

OILS! OILS! OILS!

MACHINE OILS OF ALL GRADES,

Pure Lard Oil,

SPERM OIL, PARAFFINE OIL, Etc., Etc.

EXCELSIOR MACHINE OIL,

The Best in use.

A. C. DIETZ & CO., Sole Agents

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22v16-3m

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THE UNDERSIONED KEEPS ON HAND A GENERAL assortment of Fire-Brick, Fire-Clay, Brick Dust, and Tiles of different sizes LIME, PLASTER AND CEMENT. Corner of Market and First streets, San Francisco. Branch Store, Sixth street, Sacramento. Milimen and Gas Companies supplied at short notice.

7v16 6m **H. T. HOLMES.**

Fire, Hose and Machine Belting.

THE SUBSCRIBER CONTINUES TO MANUFACTURE Oak Tanned Leather Fire Hose, warranted superior to Eastern Hose, manufactured at the Sixth Street Tannery, San Francisco.

21v16tf JOHN J. FULTON.

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Iron and Metal Importing Company,

Nos. 25 and 27 Fremont street,

SAN FRANCISCO,

Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings, which they offer to the trade on liberal terms.

21v16-3m W. McCRINDLE, Manage.

NELSON & DOBLE,

AGENTS FOR

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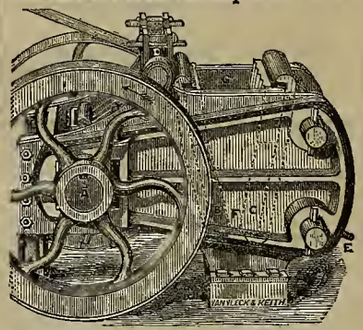
Stone Cutters', Blacksmiths' and Horse-Shoers' Tools,

319 and 321 Pine Street,

Between Montgomery and Sansome, San Francisco.

10v14qr

Brodie's Patented Improvements



FOR THE TREATMENT OF

Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages the advertisers are enabled to offer these machines to the public at the following low terms:

No. 1—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price..... **$600**

No. 2—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour..... **850**

No. 3—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour..... **1,200**

These Crushers have been erected at several mines in the State of Nevada, and others in Calaveras, Tuolumne and Mariposa counties, to whom applicants can be referred as being the most efficient, cheapest, and least weight compatible with strength and durability, of any Crusher yet erected.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.

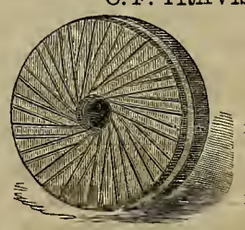
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C. F. TRAVIS,



Manufacturer of

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Mill-Stones,

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PORTABLE

MILLS.

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Celebrated

DUTCH ANCHOR BOLTING CLOTHS.

Mill Picks, Mill Picks Dressed, Mill-Stones Repaired and Rebuilt; Mill-Stones Balanced with Fellenbaum's Patent Balance, of which I am sole Proprietor for California, Oregon, and Washington Territory. C. F. TRAVIS.

5v16tf 109 Mission street, San Francisco.

ROBERT BRAGG,



STEERING WHEELS

ON HAND AND MADE TO ORDER.

JOB WORK done to order, at the shortest notice.

Main street, between Folsom and Harrison,

23v16-3m San Francisco.



Pipe Vise, with or without Extra Jaw.

Standard Milling Machine.

UNION VISE COMPANY,

OF BOSTON,

Make Vises of all sizes and kinds, for Machinists, Blacksmiths, and all other heavy mechanical work. Wood-workers' and other Vices, with Covered Screw, for general mechanical work. Standard Milling Machines, very simple and easily adjusted. Address, Boston, Mass. 23v16-1y

Belting and Lacing.

AN ENTIRELY NEW AND SUPERIOR ARTICLE OF exclusively mechanical preparation, made to order on short notice, and for sale by H. ROYER, at 425 Brannan street, between Third and Fourth. Refers to Risen Bros., Pioneer Mills; Martin Steen, National Mills; Horace Davis, Golden Gate Mills; also, N. W. Spaulding, Saw Manufacturer. 6v16-3m



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At all the most important Fairs held in the United States in the year 1867. Gold Medals at the American Instituto Fair, New York; Mechanics' Association Fair, Lowell; Maryland Institute Fair, Baltimore. Highest Premium at the New York State Fair, Buffalo, and at the Great New England Fair, Providence. At the Fairs held on the Pacific Coast, this machine has taken

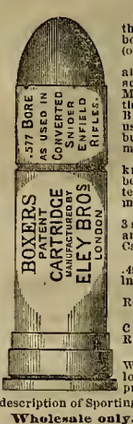
Every First Premium

Awarded on Family Sewing Machines in the LAST FIVE YEARS. If there is a Florence Machine within one thousand miles of San Francisco, that is not giving entire satisfaction, if I am informed of it, it will be attended to without express charge or expense of any kind to the owner.

SAMUEL HILL, Agent.

11v16-4m 111 Montgomery street, San Francisco.

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These Cartridges are made in three sizes, viz., .577 (or Snider Enfield) bore; .500 (or half-inch) bore; and .450 (or small) bore

These Cartridges have been adopted, after careful comparative trials against all other descriptions, by HER MAJESTY'S WAR DEPARTMENT, as the Standard Rifle Ammunition for the BRITISH ARMY, and are not only used exclusively for the Snider Rifle, but are adapted to all other systems of military BREECH LOADING RIFLES.

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PIN CARTRIDGES for Lefaucheux Revolvers of 12 M, 9 M. and 7 M. bore.

CENTRAL FIRE and PIN FIRE CARTRIDGES, for all sizes of Guns, Rifles and Revolvers.

Double Water-Proof and E. B. Caps. Wire Cartridges for killing game at long distances. Felt Waddings to improve the shooting of guns; and every description of Sporting and Military Ammunition.

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TO SPORTSMEN.



THE UNDERSIONED, HAVING BEEN APPOINTED Sole Agent for the Pacific Coast for the sale of ROPER'S BREECH-LOADING SHOT GUN, which discharges four shots in two seconds, circulars will be furnished by applying to or addressing

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111 Second street,

Or Lock Box 1172 P. O., San Francisco. 18v15 2m6in

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Hose and Belting.

Fire, Hydraulic Hose and Leather Belting, made of the heaviest and best quality of Oak-tanned Slaughter Leather. Also, Fire Buckets, suction Hose, etc. Our Belting is well stretched, cemented and warranted to run true, and our Hose guaranteed to give satisfaction. A large assortment always on hand and orders promptly filled. No. 801 Battery street, San Francisco. 13v16-3mcow

Carbolic Acid.

One of the most noteworthy features connected with the industry of the present time, is the extent to which organic chemistry has of late years contributed not only to changes in various processes of manufacture, but also to the production of new materials capable of widely extended and very frequently of widely diversified uses; and among which there are few examples of greater interest than the substance commonly known as carbolic or phenic acid, the chemical composition of which is represented by the formula, $C^{12} H^5 . O, HO$, or that of hydrous oxide of methyl. The process of obtaining the material may be described, in brief, as resulting from the distillation of the tar of bituminous matter, from which, at a temperature between 300° and 400° of Fahrenheit's thermometer, light essential oils are expelled. These latter, being collected upon the water in the condenser of the distilling apparatus, are agitated with about twice their volume of caustic potash. The combination of the acid with the alkali forms a phenate of potash, which, being treated with muriatic acid, a new salt is formed and the phenic acid is liberated; the acid, when thus obtained, constitutes a colorless oil heavier than water and closely resembling creosote, in the place of which it may be employed in some cases, inasmuch as it possesses to a certain extent some of the properties thereof.

Among the uses to which it has been proposed to apply the material under consideration, that of the greatest practical importance is doubtless the preservation of organic matter, not alone in providing for the incorruptibility of timber, for which its property of neutralizing the fermentation of albuminous compounds renders it especially well fitted, but also in preventing the decay of animal matter; its employment having been suggested for embalming, so that, if successful in such case, the cheap product of the pitchy tar will accomplish the same results for which caravans in ancient days bore across the deserts the costly spices of the farther East, an illustration that may be properly used to symbolize the difference between the arts of the old times and those of the present. Carbolic acid has furthermore another use more properly termed industrial in its nature, and involving in its employment a change in the material itself, the latter being treated with nitric acid to produce the substance known as carbazotic acid, employed to a great extent in dyeing. There may also be mentioned among its minor uses its application to the tanning extracts employed in calico-printing to prevent their decomposition and conversion by fermentation into sugar and gallic acid, and its use as a sanitary agent in preventing the decay of organic matter and the consequent noisome exhalations therefrom.

It has also been found an antidote for the toothache, doubtless acting as a counter-irritant in the same manner as creosote, and its use has been suggested as a remedy for burns and scalds in a preparation consisting of one part of the acid to thirty parts of oil and lime-water, the emulsion being spread upon a linen rag for application to to the injured part. When it is further said that it has been employed with success for the destruction of insects, and has been proposed as a substitute for oil on stones for sharpening tools, some idea may be formed of the variety of uses, great and little, to which it is applicable, and the hope be encouraged that its capabilities may be still further extended by future experience and experiment.—*American Artisan.*

THE TERM "TELEGRAM."—When the Indian term "telegram" was first applied to our telegraph messages, a considerable amount of learned disquisition was wasted in seeking its origin. Any one who has been in India must remember the curious pronunciation by natives of many English proper names, as well of other words, for which they have no translation in Hindoostanee; generally abbreviating a long, difficult expression, and sometimes even changing altogether the pronunciation. On the introduction of the telegraph into India, there being no Hindoo word, the natives were obliged to attempt English, and the easiest way they could manage to pronounce "telegraphic message," was "telegram." This being an easy abbreviation it was at once picked up and adopted by the English in India, and then came home in the same way that we got "loot" from India, and now again from China.—*The Engineer.*

A NOVEL USE OF STEAM.—Somebody in Louisiana proposes the use of steam directly through the share of a steam plow, to loosen the soil.

MOTION OF THE EYE.—On coming into a room we think we see the whole side of it at once—the pictures, the cornice, the chairs—but we are deceived; being unconscious of the motions of the eye, and that each object is rapidly, but successively, presented to it. It is easy to show that if the eye were steady, vision would be quickly lost; that all those objects which are distinct and brilliant are so from the motion of the eye; that they would disappear were it otherwise. For example, let us fix the eye on one point—a difficult thing to do, owing to the very disposition to motion in the eye. When we have done so, we shall find that the whole scene becomes more and more obscure, and finally vanishes. If we then change the direction of the eye but ever so little, at once the whole scene will be again perfect before us. These phenomena are consequent upon the retina being subject to exhaustion by the lights, shades and colors of objects continuing to strike upon the same relative parts, and thus exhausting the nerve; but when the eye shifts, there is a new exercise of the nerve.

SOLAR HEAT AS A MOTOR.—An English engineer proposes employing solar heat in generating steam. By using a lens of small diameter, the sun's rays have been concentrated in a vessel containing water, to such a degree that enough steam has been generated to drive a small engine. Increasing the size of the lens will, he contends, have the effect of still further intensifying the solar heat, and the power that may be obtained is only to be limited by the dimension of the apparatus employed. Should the plan of this engineer be generally adopted the old proverbial injunction for promptness will take a mechanical turn, "make steam while the sun shines," instead of its original agricultural significance.

ELM BARK is very generally used in Norway for making leather, and it is said the fine Norway gloves are prepared from the elm bark, and that the softness and beauty of the leather are attributable to this bark. The white willow is employed in Denmark for the leather used in the manufacture of gloves. Russia also uses this bark in the manufacture of fancy leather, the finished leather being impregnated with the oil of birch bark, which gives it a peculiar, agreeable smell. It is a noteworthy fact that the Norway tanners use birch and willow in preference to oak bark.

PREPARING FEATHERS FOR BEDS AND PILLOWS.—At the plucking of the birds all the coarse feathers are separated from the fine, the latter being put into large calico bags, which bags are put into a brick oven when it has sufficiently cooled after baking not to burn the bags, and there they remain until next baking day, and so on week after week until sufficiently seasoned. The heat entirely destroys all animal and oily matter.

THE LOCUST FOR POSTS.—Clark Smith, of Sayville, L. I., says that forty years experience in setting fences with locust posts has convinced him that no others are worth using when this timber can be obtained. Split locust posts well seasoned, which he put in forty years ago, are sound now, while round post set green will rot in fifteen years.

THE new hotels in London are copied after the latest American houses in the large cities.

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Watchman's Time Detector.

THIS WATCH-CLOCK WAS INTRODUCED TO THE public in almost every section of the United States and Canada about five years ago, and it has proved itself to be the best invention in the world for testing the faithfulness of Watchmen. Since its introduction, the Proprietor has improved on some parts, and corrected deficiencies, and he has now

A Perfect Check upon the Watchman.

With other Clocks, a regular routine has to be followed, but with this a Watchman can be ordered to visit any particular place as often as required, without being compelled to go to places where it is not necessary to visit as often.

The instrument is complete in itself, portable, and as reliable as the best lever watch.

It is not so likely to become disarranged in its works as a good watch, because its parts are stronger. But when it needs cleaning, any common watchmaker can adjust it, its mechanism being simple. It requires no fixtures or wires communicating from room to room, as is the case with the ordinary Watch-Clocks; a small, inexpensive stationary key is alone required at each station. By its use places can be guarded that it would be impossible to guard with any other instrument, such as Railroad Tunnels, Bridges, Yards, Shops, etc. The instrument will in all cases be warranted perfect and satisfactory. Its price is Invariably *Seventy-five Dollars*, cash on delivery, including as many keys as are requisite, not exceeding twelve.

THIS WATCH-CLOCK IS SOLD AT A LESS PRICE THAN ANY OTHER IN THE MARKET.

The DETECTOR is used extensively by large Manufacturing Establishments and Railroad Companies in the United States, from whom numerous testimonials have been received.

☞This Detector is covered by two U. S. patents. Parties using or selling these instruments without authority from me will be dealt with according to law.

N. B.—Parties purchasing these Clocks should test them sufficiently in the counting-room or office, as they will not be taken back after having been injured by the Watchman through carelessness.

All communications promptly attended to. Address

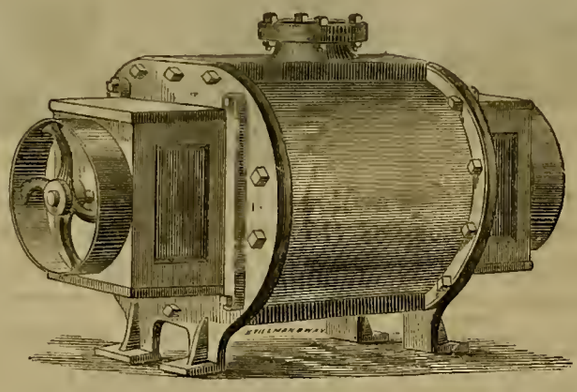
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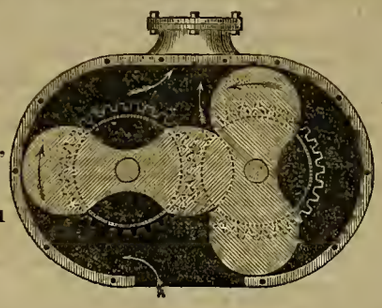
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CAUTION.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.

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HUNGERFORD'S IMPROVED CONCENTRATOR,

For Saving Gold, Sulphurets, Quicksilver, etc.

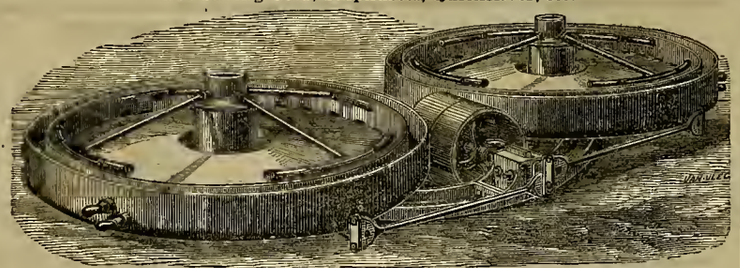


FIG. 1.

There is no description of machinery of so much importance to the mining interests of California, at the present time, as that for the separation of sulphurets. Many machines have been tried, and abandoned; and none seems to meet the requirement of the mining interest so well as that now patented by Mr. Hungerford, which is an improvement on the well known Hungerford & Prater Concentrator, with which his name is already so familiar.

Fig. 1 is a perspective view of that pan as now constructed. For economy of space and machinery, one shaft is made to drive two pans, which are set and arranged as shown in the engraving.

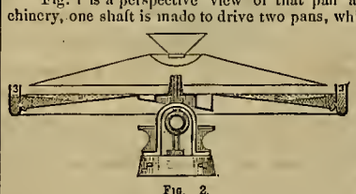


FIG. 2.

Fig 2 is a section through the center of the pan, showing how it operates in separating the sulphurets, as well as the great improvement to the pan, which consists of the addition of a circular trough outside the periphery.

A full description of the principle and mode of action of this pan, is described in circulars, which will be forwarded to any party who may desire them.

It should be borne in mind that Mr. Hungerford is the original builder and maker of the celebrated Prater Concentrator, and his name should be sufficient guarantee to warrant the public in examining his new machine before purchasing elsewhere.

RECOMMENDATIONS:

NEWCASTLE, Cal., June 21, 1868.

M. HUNGERFORD, ESQ.—*Dear Sir:*—Having used eight of your improved Concentrators (built by Goss & Lambard, of Sacramento), it affords me pleasure to bear testimony to their efficiency and adaptation to the purposes for which they are designed. I have used various styles of Concentrators during the last five years, but have found nothing that begins to compare with your machine, for durability and thorough concentration; and I can confidently recommend them to millmen, being, in my opinion, the best Concentrator now in use. Yours truly, J. C. COREY.

NEWCASTLE, Placer County, Cal., June 23, 1868.

Mr. MORGAN HUNGERFORD, ESQ.—*Dear Sir:*—After witnessing the operation of eight of your Concentrators for a month, in the Golden Rule mill, Placer County, and running the same number in the Mt. Pleasant mill, El Dorado County, I am satisfied they are superior, as Concentrators, and more durable and less liable to get out of order, than any Concentraters I have seen; and I recommend them to millmen, feeling assured they will, after the most thorough trial, be pleased with them.

Very respectfully, L. E. ATCHISON, Metallurgist.

BIG OAK FLAT, May 23, 1868.—*Mr. Thos. Mulford*—Dear Sir:—I have used two of Mr. Hungerford's Concentrators in the Rattlesnake Quartz Mill, at this place, and find that they work full as well as they are represented to do. E. M. SMITH, Supt.

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Lastly. It does not pack; is free from dust; much lighter, and in general obviates all the objections to palm, prepared shavings, soap root, and other inferior substitutes for feathers and hair. 22v166m

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BLOW-PIPE INSTRUCTION.—We have received from A. Roman & Co., a new work, comprising a system of instrnction in the practical use of the blow-pipe, by C. W. Plympton, Professor of Physical Science of the Polytechnic Institute, Brooklyn, N. Y. This work was originally compiled from the works of Scheerer and Plattner, and appears to possess many advantages as a text book, over the very few other English works extant on this important subject. We shall more carefully examine the work during the coming week and make further notice of it in onr next issue.

CALISAYA BARK.—It is said that Messrs. Drake & Co., (proprietors of the Plantation Bitters) are tho largest importers of Calisaya Bark in this country, and that, witb tbe exception of an occasional sale, that all they import is used in the compounding of their celebrated Plantation Bitters, and to which they undoubtedly are indebted for their wonderful health restoring properties. As a Tonic and Appetizer they are not surpassed, and we cbeerfully recommend tbem. All first-class druggists keep them for sale. *

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SCIENTIFIC PRESS.—A printing office has heen estahlished at tho Mechanics' Fair, and Messrs. DEWEY & Co., the enterprising publishers of the MINING AND SCIENTIFIC PRESS, are issuing from it a handsome double-sheet daily, which is a credit to themselves, its editors, and to tho Fair.—*S. F. Morning Call, Sept.* 8, 1864.

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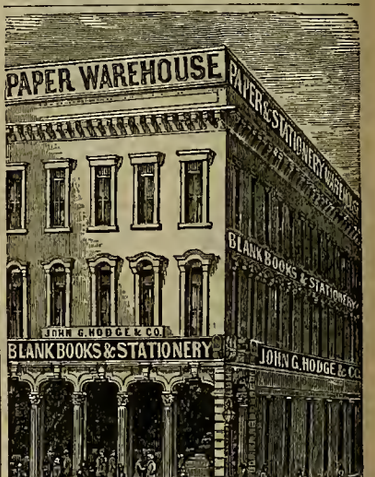
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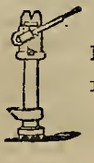
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SAN FRANCISCO, SATURDAY, AUGUST 8, 1868.

VOLUME XVII. Number 6.

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REMOVAL.—The office of the MINING AND SCIENTIFIC PRESS, with the Patent Agency and Job Printing Office, connected therewith, will be removed, to-day, from its present location, 505 Clay street, to 414, on the opposite side of the same street, and about half a block lower down—just below Sansome. The object of this removal is to secure larger and more commodious rooms, and a building in which our business can all be placed together. The necessity which has heretofore existed of carrying on our patent business more than a block away from our main business office, has been a source of great inconvenience and annoyance, not only to ourselves, but to our customers as well. Our friends will hereafter find us as above.

Contributions for our Cabinet.

Under this heading we shall continue to mention and describe, according to merit, such specimens of ores, minerals, fossils, curiosities, etc., as may be presented, or forwarded to us by mail or express, prepaid. Each article will be numbered and placed in our cabinet, and recorded with the name of the donor, and the claim or location from whence it came.

We have received from our old correspondent, Mr. A. J. Howk, of Ellsworth, Nevada, a box of very fine specimens, among which we notice first, a substance which he informs us "is found oozing out of clefts of limestone in that vicinity, and thought to be an animal deposit, from the fact of its association with the dens of a species of rat that lives in the crevices of the rocks, and on which account the miners have given it the name of "ratoleum." This substance is undoubtedly organic, and is probably a resinous gum derived from the roots of a resinous tree. We have numbered this 214 in our cabinet.

No. 215 is a fine specimen of tungstate of manganese, from Mammoth District, Nevada. No. 216 is a very perfect pair of twin crystals.

No. 217 is a very pretty cluster of finor spar crystals. No. 218 is a specimen of purplo copper ore from the "West Slope," Mammotb Mountain, accompanied witb green carbonate. The vein from which such a specimen was obtained, ought to be rich in copper. 219 is a sulphuret of antimony, location not given.

Nos. 220 to 226 consist of representative ores from the Main Summit, the St. Helena, and the Cadiz ledges, Mammoth District. Nos. 225 and 226 represent the first and second extensions of the Marble Falls Ledge. Nos. 227 to 234 inclusive, consist of a very fine suit of specimens from the Marble Falls. All the latter show free gold, and are indicative of a very valuable mine.

No. 235 is a very fine specimen of amorphous fluor spar, covered with small bluetinted cubical crystals of the same mineral. No. 236 is a very beautiful specimen of silicified wood.

Munson's California Submerged Pump.

This pump is a California invention, brought out by a practical pump-maker, who has devoted years of study and labor to its perfection. It is at once simple, cheap and effective, combining all the advantages of the common lift, with the double-acting suction and force pump, and is now offered to the public entirely on its merits. It is claimed that it can be sold as cheap or cheaper than any other, in proportion to the work it can perform with a given power. An examination of its construction will at once show its durability and economy. The water passages are large and straight, thereby avoiding unnecessary friction. It has only two valves, both of which are made of metal. It is so constructed that it can be readily emptied of its water when its operation ceases, by means of a trip-valve as described below. The pump once put in order requires no repairs, under ordinary usage; but if by accident any portion should be broken or lost, a duplicate can be had at the mere cost of the casting necessary to be replaced. The patterns are so accurately made that every part of one pump fits to any other of the same size without any machine work.

FIG. 1.



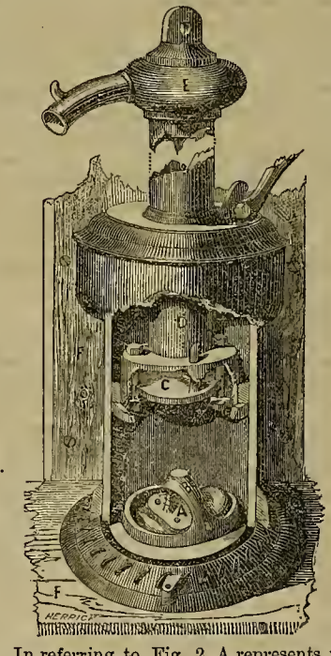
In the engraving herewith given, Fig. 1 represents a perspective view of a pump designed to act as a simple suction and force pump. At the nozzle end of the hose is seen an ingenious arrangement to take the place of the ordinary rose sprinkler. It consists of a small attachment made of brass, hinged to the nozzle, which, when grasped by the hand, may be lowered or elevated by the action of a spiral spring. The jet as it leaves the nozzle strikes upon a flat surface, sustained at a slight angle, which spreads the stream into a fan shape, more or less flattened or finely divided as the spring is elevated or depressed. When the spring is not depressed, the stream flows as from an ordinary nozzle, so that it may be operated either way at pleasure. The jet may be divided finer by this arrangement than by the finest rose sprinkler. Application for a patent for this invention is now pending.

Fig. 2, represents a sectional view of the same pump, with a portion of its walls broken away, so as to show its interior parts. This is intended to operate as a submerged lift and force-pump, and is known as the "California Submerged Pump."

The *Scientific American* of June 25th, 1864, refers to this invention as follows:

"This invention consists, first, in a novel trip-valve arrangement for admitting of the escape of water from the ednetion pipe of the pump after each operation of the same, whereby the pump is prevented from being rendered inoperative in winter by freezing, and fresh, cool water always obtained in the summer. The invention consists, secondly, in a novel construction of the plunger of the pump, whereby the former is made to serve as an air-vessel as well as a plunger, and considerable expense saved in the construction of the pump, and the latter also materially simplified. It consists, thirdly, in the use of a cap attached to the pump box at the top of the well or cistern, and provided with a brake joint, whereby a very simple, economical and durable means is obtained for a pump fixture at the top of the well or cistern."

FIG. 2.



In referring to Fig. 2, A represents the lower valve, C the upper valve, and D the plunger, which consists of a hollow pipe for the water way. B represents a metal bonnet which holds the valve A in place. The water passing through the lower valve is forced by the downward action of the plunger D upward through the same into the chamber E, and out through the goose-neck or spout. Windmill or other power may be attached direct to the top of the plunger, by an eye-bolt, as shown; or power may be applied to a brake joint, as is shown upon the top of the barrel, below the pipe and chamber E.

The public are invited to call and examine this pump, at 635 Howard street, and judge of its merits for themselves. Town agencies for its sale on application as above. State and County rights also for sale.

The State University.

We understand that the attention of the Board of State University Regents has been for several weeks called to the propriety of the appointment of a Secretary to the Board. This position of Secretary to the University, according to what we conceive to be the meaning and spirit of the Act of the Legislature, which has brought the University into existence, was contemplated to be a most important one. The programme positively directed to be pursued in establishing the University, is, first, the institution of an Agricultural College; second, one for the Mechanic Arts; third, Mining and its associate sciences, and lastly the Classics, etc. From the fact that the Legislature has made it mandatory that the Secretary "shall be a practical agriculturist by profession, and capable of managing a farm, etc., combined with the qualifications requisite to perform the ordinary duties of a Secretary, it is quite evident that the intention of inserting such conditions was for the purpose of having appointed to that office some person having special qualifications by the possession of a practical knowledge of agriculture, and as much other varied scientific knowledge as could be obtained in the person of such an officer.

We understand, however, that owing to the fact that in the present infantile position of the affairs of the University, the more important duties intended to be performed by the Secretary, are not needed, and will not be required for some months to come; that in fact the duties now required are, and will, for sometime, merely he those of a simple recording clerk; hence it is not requisite to appoint to the office a person possessing the qualifications so emphatically insisted on by the Act of the Legislature. In the cogency and appropriateness of such a course, we concur, provided only a clerk is now appointed. We should, however, demur to the appointment of any Secretary not fully qualified under the Act, for the permanent office. If the term clerk is offensive, we would suggest that the difficulty may be got over by appointing a Secretary to the Board of Regents; but whenever the Secretary to the University is to be appointed, we trust that no one but a practical and scientific man will be placed in the position; and that whenever the selection of such official is made, we hope no circumstances associated with creed, country or party will have any influence in the decision. It is quite evident that under the law, as it now exists, the judicious appointment of a Secretary will possess no inconsiderable influence in regard to the future weal or woe of our University.

D. MAOKEN, an honest subscriber to the PRESS, at Nelson Point, Plumas County, has our thanks for unusual favors.

A GRAPE fever reigns through the South, and everybody who has dipped into it is expecting to get rich.

Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

The Age of Gold-Bearing Rocks.

BY PROFESSOR ROWLANDSON.

Under the above heading appeared in the last week's issue of the MINING AND SCIENTIFIC PRESS, the recently modified views of Sir R. Murchison, on this interesting subject, respecting which I pnrpose appending a few observations. Previons to doing so, I wish to remind the reader that from inductive reasoning I have on theoretical grounds puhlished as my views what has subsequently been proved to he the fact, viz., that gold-bearing rocks would probably he found situated in strata more recent than those of paleozoic age.* Your readers will perhaps be a little indulgent for some prolixity on the suhject, as there evidently exists, as will be seen from a quotation below from a statement made hy Professor Brewer, to ignore my claims to having anticipated such a probability. Under the head of "The Age of Gold-Bearing Rocks," a series of articles was commenced by me in the *Alta California*, on the 18th of August, 1863. The original design of this serics was to have comprehended the entire suhject in all the phases associated with the sciences of chemistry and geology, one small portion of which will form the terminal of this paper. The reasons why this course was not followed, will be found in the articles alluded to in the first foot-note. †Subsequently to the date named, the first announcement which appeared on the same suhject, was in *Silliman's Journal* for September, 1864, in which will he found the following passage: "As far as California is concerned, so far from gold being limited *to Silurian Rocks, this metal occurs in no inconsiderable quantity in metamorphic rocks of as recent age as the Cretaceous.*"

On Octoher 3d, of the same year, Professor Blake read a paper hefore the California Academy of Sciences, relating to certain cretaceous fossils found in the vicinity of the Pine Tree Lead, Mariposa County. Professor B. had had his attention called thereto by Miss Errington, of Bear Valley, and it was not I believe until 1855, that Professor Whitney announced that Mr. Clarence King had discovered fossils of Jurassic age, a fact, however, kept so secret that Professor Brewer has admitted that "the atteution of Mr. Gahh and myself (Professor Brewer) was first directed to those particular species by this announcement"—made as ahove by Professor Blake. Professor Brewer, in criticising some statements made by Professor Blake, relative to any one having previously similarly theorized on this suhject, has observed: "As he does not cite his authorities in the case, I cannot positively deny that such *surmises* may have been printed, but I never saw them until *after* September, 1864; since which date, certaiu writers have recollected that they have arrived at these conclusions, and are now putting forth claims for their discoveries." If Professor Brewer will ohtain access to the *Alta California* of the 10th of Decemher, 1863, he will find an article which was written by me, under the same caption as this paper containing the following passage: "He (the present writer) was at any time prepared to hear and have satisfactory evidence adduced, that auriferous bearing quartz, pyrites, or veins of these minerals, mixed in any or all proportions, had heen found in strata of the latest periods,"—a theory, by the way, which I have held for twenty years.

In the last numher of this journal, Sir R. Murchison is represented to admit that where certain igneous eruptious penetrate secondary deposits, the latter have heen rendered auriferous; hut in conclusion, No. 3, Sir R. very superfluously states "that all secondary and tertiary deposits (except the auriferous detritus in the lattor) not so specially affected, never contain gold." But are not the paleozoic rocks exactly similarly circumstanced, viz., totally devoid of gold where igneous agency has been entirely absent? The fact is, the error committed in connecting the presence of gold as only being associated with paleozoic rocks, has arisen from the circumstance of associating age as an elementary constant, in place of physical influence as a constaut arising from the contiguity of igneous rocks.

The fact may or maynot he true, as stated by Sir R. M., that the veinstones of the lower siluriau rocks contain the greatest quantity of gold. With all due deference, however, to an authority which I so highly respect, I am inclined to think that the veinstones of the secondary formation are the richer of the two. The reasons, however, which I have to assign why this order may in some cases he reversed, I must defer for another week.

* Such readers as may feel disposed to seek fuller information on this subject, are referred to the files of the *Alta California*, from the 18th of August to the 10th of December, 1863, and vols. X and XI of the MINING AND SCIENTIFIC PRESS.

† Mr. D. Forbes had an article in the seventeenth volume of the proceedings of the London Geological Society (about 1862) on a closely allied topic, which possibly may have made a similar allusion; but that paper has never been seen by the present writer. I may also state that within the past eighteen months it has been mentioned to the writer, that a somewhat similar theory appeared about eighteen years ago; but in what publication my informant could not remember.

[Written for the Mining and Scientific Press.]

Metallic Deposits--Gold Nuggets--Theory as to their Formation.

BY DR. LANSZWEERT.

EDITORS PRESS:—In my article on the reduction and concentration of auriferous ores, puhlished iu the MINING AND SCIENTIFIC PRESS, March 30th, 1865, I notice some interesting discoveries, showiug the comparatively modern date of the deposition of gold. In the MINING AND SCIENTIFIC PRESS, April 25th, 1868, appears a paragraph hy Prof. T. Sterry Hunt, as puhlished in 1861: "That the metals of the Quebec group seem to have been originally brought to the surface in watery solutiou, from which we conceive them to have hoen separated by the reducing agency of organic matter in the form of sulphurets, or in the nativo state, and mingled with the contemporaneous sediments, where they occur in seeds, in disseminated grains, forming *fahlbands*, or, as at Acton, Canada, are the cementing material of conglomerates." The above quotations may justify a few words hearing directly upon the subject which heads this article, having a practical as well as a scientific interest to the mining community of California.

Many large masses of gold have been taken from the placers of California, at various times, of which no authentic record or description has heen kept. In 1864 a large mass, one hundred and eighty-seven ounces (fifteen and seven-twelfths pounds) was taken from the Middle Fork of the American River, ahont two miles from Michigan Bluffs, Placer County. The Carson Hill quartz claim, in Calaveras County, is celebrated for the size and weight of the masses of gold taken from it, some of which weighed six or seven pounds.

The origin of nuggets has ever been a posing problem to sciencé. Every one concurs in the belief that all alluvial gold has heen derived, at some time or other, from lodes; but seeing that the largest piece of gold ever fonnd in the matrix is iusignificant, when compared with the nuggets which have sometimes heen found in the alluvial, it has been a difficult matter to reconcile helief with experience. The well-known geologist, Mr. Selwyn, some short time since hroached an ingenious theory, which carried with it something of plausihility, suggesting the probability that gold might exist in solution, in the mineral water permeating the silurian rock, aud in the gold drifts; aud that this water, in its passage through the drifts, became, by some uuknown means, decomposed, influencing the precipitation of the gold, which concreted, (so to speak) around the most congenial nucleus presented to it,—such as the particles or pieces of gold existing in the drifts, or any other metallic suhstances for which it had an affinity. Mr. Charles Wilkinson, in a paper read hefore the Royal Society, relates the following as illustrative of the solution of this very puzzling question.

Mr. Daintree, formerly of the Australian Geological Survey, had on one occasion prepared for photographic uses a solution of chloride of gold, leaving in it a small piece of metallic gold undissolved. Accidentally, some extraneous suhstance, supposed to be a piece of cork, had fallen into the solution, decomposing it, and causing the gold to precipitate and deposit itself in a metallic state, as in the electrotyping process, around the small piece of undissolved gold, increasing it in size to two or three times its original dimensions. Considering this accidental experiment of Mr. Daintree as in some measure hearing out Mr. Selwyn's hypothesis, Mr. Wilkinson was induced to make a few simple experiments, using the most convenient salt of gold—the terchloride—and employing wood as the decomposing ageut, in order to imitate as closely as possible the organic matter supposed to decompose the solution circulating through the gold-hearing drifts. He first immersed a piece of cubic irou pyrites, taken from the coal formation at Cape Osway, far distant from auy gold-hearing rocks, and therefore less likely to contain gold than other pyrites. This specimen was kept in a diluted solution for ahout three weeks, within which time it was completely covered with a bright film of metallic gold. He afterwards filed off the gold from oue side of tho pyrites, and the gold of the surrounding coating was thicker than ordinary note paper. If the condition had coutinued favorable for a very lengthened period, this specimen would doubtless have formed the nucleus of a large nugget. Crystals of gold have been found to contaiu *nuclei* of brown iron ore and undecomposed iron pyrites.

Another specimen of cubic iron pyrites was immersed in a solution of about four grains of the chloride of gold to one ounce of water. Iu a short timo, however, it was found that in such a strong solution the pyrites hegan to he decomposed; but after diluting to ahout two grains to one ounce of water, this decomposition apparently ceased, and metallic gold deposited wherever a particle of the sulphide existed, alike in crevices as on the surface of the quartz; also assuming a remarkable mammillary form. This was kept in the solution for a week. Another piece of iron pyrites, and also one of galena, was kept in a solution of one grain of chloride to one ounce of water, for eight days, when the gold was so deposited on hoth, that a person was unable to distinguish ono sulphide from the other.

A weak solution produces more perfect results than a strong one. With the latter, the sulphides are partly decomposed, and the gold is covered with a dark brown, powdery film. This film does not prevent the growth of the gold in tho solution, as it may be easily rubbed off. Iron, copper, and arsenical pyrites, antimony, galena, molybdenite, zinc-blende and wolfram, were treated in the ahove manner, with similar results. Brown iron ore, and quartz covered with peroxide of iron, were also tried in the same way; but the gold was deposited only as a fine metallic powder. In the above experiments, a small chip of wood was employed as the decomposing agent.

In one instance, a small piece of leather was employed. All through the wood and leather, gold was disseminated in fine particles, and when cut through, the characteristic metallic lustre was brightly reflected. Experiments were made by immersing sulphides in the solution without organic matter; but they remained unaltered. Iron pyrites were tried with metallic copper, zinc and iron as decomposing agents; hut metallic gold was deposited only as a fine powder, which settled at the bottom of the vessel.

From these experiments, it would appear that *organic* matter is the necessary chemical agent to decomposo a solution of the chloride of gold, in order to precipitate the gold as a *coherent* coating around a nucleus presented to it, and that so far as has yet been tried, iron, copper aud arsenical pyrites, galena, antimony, molybdenite, hlend, wolfram and metallic gold, constitute especially favorahle *nuclei* for the demonstration of this chemical reaction. Organic substances, such as fragments of wood, roots of trees, etc., exist abundantly in the gold drifts. It remains, therefore, a point of great importance to decido whether gold is actually in solution in the mineral water circulating through our rocks and drifts. I am not aware that any direct experiments have heen made to solve this question. But that gold has been found throughout iron pyrites, not only in California, hnt also in Australia, by Messrs. Daintree and Newherry, certainly corrohorates this theory. Analogy, however, though a truthful guide, if relied upon too implicitly in outward semhlances, may lead to erroneous conclusions. Nevertheless, striking similarity in the surface of the artificial production to that of the natural gold, is a point worth noticing. For if the form of the latter is the result of ahrasion of its surface hy the material carried along by the streams that once swept down tho course of the old "leads"—then the analogy will not hold good.

The occurrence of larger nuggets of gold in gravel deposits, than have ever been found in quartz ledges, coupled with the fact that alluvial gold is almost universally of a higher standard of fineness than that ohtained from quartz, would of itself seem to imply a different origin for the two. As an evidence of this fact we may refer to the nugget, already referred to (no data of its weight) found at Downievillo, and assayed by the late firm of Wass, Molitor & Co., which was found to be 992-thousandth fine. The experiments already referred to of the decomposition and re-deposition of a very fine quality of gold, under circumstances almost precisely similar to those which exist in all our gravel deposits, wonld also seem to point as to a similar law for the probahle aggregation of nuggets. This same law will moreover account for the presence of auri'e.ous deposits in fossilized wood, imbedded in auiiferous gravel; also for the fact that gold is sometimes found inclosing a nucleus of brown irou ore etc.

That gold may be greatly purified by dissolving and re-precipitating it, is strong evidence in favor of the theory of attrihnting to a similar cause the greater purity, generally, of alluvial than quartz gold.

Mr. William Shiress, of Sandhurst, Australia, remarks that the prevailing alloy of gold, found in the gold fields of Victoria, is silver; and according to his experience, large nuggets are of a lower standard thau smaller particles found in the same gravel, and that the finer the particles are, the higher the quality of gold. In several localities he says the silver fouud, was one-twelfth or more of the weight of the gold. Silver cannot remain in solution in conjunction with the chloride of gold; so that the source from whence alluvial gold containing silver is derived, must be other than a chloride solution,—for two metals, when aggregated together, must be precipitated from a mutual solvent. No such solvent is known to science; or at least no solvent is known to possess such a power, not even in mineral water.

In *Dicker's Record* of July 24, 1866, a statement is made to the effect that all nuggets of any considerable size, which have been found in Victoria, have heen discovered in the immediate neighhorhood of recent volcanic action; and from this fact the theory is proposed by Mr. Selwyn, that such nuggets have been formed hy the melting together of smaller particles. Up to that period the premises from which this deduction was drawn, were correct; hut more recently quite large nuggets have heen found in North Gipps Land and at Wood's Point, localities where there is no evidence of any volcanic action whatever. How far these discoveries may go toward disturbing the volcanic theory, I do not presume to say, and will close this communicatiou by simply stating that my object in the ahove has simply been to further the ends of science, hy stirring to fresh exertion the minds of some of our California iuvestigators.

FEELING SOUND.—Dr. Peet has discovered a very curious fact—that deaf persons can *feel* a drum when beaten. They feel the reverherations as if striking the soles of their feet and passing up to the regions of the heart. He has made a curious application of the discovery, having an alphabet which he beats on the drum, and the mutes, with their backs turned, write the words spelled in that way.

THE AGE AND RETURNS OF THE FREIBERG MINES.—It has heen calculated by Prof. Breithaupt that during the 640 years which they had been worked, dating down to 1825, the mines of Freiberg produced not less than 82,000 cwt. of silver, and that the amount yielded in 1850 alone was not less than 800,000 thalers.

Mechanical.

Melting and Casting Wrought Iron.

An experiment was tried some years ago, at the Mersey Steel Works, in England, of fusing wrought iron, with the view of casting into such shapes as cranks, cross-heads, and other forms difficult to forge, but which were required by engineers. The experiment succeeded admirably, so far as to obtain most excellent castings; but it was found that such deterioration took place in the structure of the iron, when passing from a fluid to a solid state, as to render cast wrought iron but little superior to ordinary cast iron.

These experiments were undertaken while Mr. Bessemer was engaged in *his* early experiments, and it was especially noticed that the fracture of the cast wrought iron presented a very similar appearance to the Bessemer steel ingots when broken. It was found that crystallization took place in the same manner during the cooling of wrought iron, as ordinarily takes place with other substances when passing from a fluid to a solid state. The heat required for melting wrought iron is vastly greater than that required for melting cast iron; and is obtained only with great difficulty, even in the best constructed furnaces. Scrap iron of the best quality was used for these castings.

Although the experiments resulted in an utter failure, so far as the main object of their undertaking was concerned, they nevertheless led to the development of a fact of much importance in connection with heavy forging operations.

The idea was current at this time, that large masses of wrought iron, from long continued heating, have a tendency to crystallize, and lose the fibrous quality peculiar to that kind of iron—an idea under which Mr. Nasmyth's experiments for constructing forged cannon of large size, had just before been abandoned. It was supposed that the *great length of time* employed in heating such large masses, and subsequently in forging and shaping them, gradually produced the change from a fibrous to crystalline texture.

The experience gained in making wrought iron castings, during the experiments at the Mersey Steel Works, developed the true cause of the crystallization of such iron, when brought about by furnace operations; and the subsequent successful production of forged masses, much greater in size than those operated on by Mr. Nasmyth, have practically demonstrated the incorrectness of the former theory. The real cause of the change in the texture of the iron is due to overheating. In heating such large masses, the fires are urged too rapidly, so that the outside first, and subsequently the whole mass of the forging, is reduced to a pasty or semi-fluid condition. When such a degree of heat is attained, the fibrous structure is inevitably destroyed, and, in the process of cooling the mass, crystallization inevitably takes place. The iron, under such circumstances, is sometimes said to be "burned." The degree of heat which will produce this change is much greater than that required for forging.

True, wrought iron, when subjected for a long time to constant alternations of heat and cold, will lose its fibrous structure, much as it does when subjected, for a lengthy period, to constant vibration—for heat is nothing but another mode of setting the particles of iron in motion—but a simple continued condition of heat, however great, short of complete or partial fusion, will never produce any material change in the structure of wrought iron.

Iron for Grinding Purposes.—Grinding with a cast iron wheel at high velocity is a process successfully conducted at many shops, and which has been found to be both economical and efficient.

Tenacity of Metals and Alloys.—The following experiments have been made to test the tenacity of metals and alloys, with the annexed results. The tension was obtained by the use of a winch, and measured by a spring balance. The wires used were double, gauge No. 23:

	Breaking strain for double wires.
Tin	under 7 lbs.
Lead	" 7 lbs.
Gold	" 8.
Copper	" 30 lbs.
Silver	" 50 lbs.
Platinum	" 50 lbs.
Iron	" 90 lbs.
Tin-lead alloy	under 7 lbs.
Tin copper alloy (12 per cent. copper)	about 7 lbs.
Copper-tin alloy (12 per cent tin)	" 90 lbs.
Gold copper alloy	" 75 lbs.
Silver-platinum alloy	" 80 lbs.
Steel	above 200 lbs

Testing Steam Boilers.—Prof. S. W. Robinson, of the University of Michigan, proposes to the engineer who wishes to determine the pressure to which his boiler can be worked with safety, the following very simple process: Let the boiler be filled entirely full of cold water, even to the throttle and safety valves, and all closed tight to prevent any escape. Now, by lighting a fire under the boiler, the water will be gradually expanded, and produce a pressure sufficient even to rupture the iron before the temperature of the water arrives at the boiling point. While the pressure is increasing, let the steam gauge or pressure indicator be watched; and when the test pressure, which may be twice or more times as great as the working pressure, is reached, a portion of the water may be allowed to escape, and the pressure reduced. The pressure results from the fact that water expands more by heat than iron, at a corresponding temperature. The process given above is attended with as much safety as the use of the hydrostatic press, unless the water be heated over 212° Fah., which would not be required unless the boiler leaks. Below this temperature no disastrous consequences would follow, even if the boiler should be torn asunder, inasmuch as explosions result from the sudden expansion of gases or vapors.

The Loss of Power by the Crank.—The crank is simply a mechanical medium of transmitting motion, or rather of transmitting the direction of power. No loss of the power has ever been discovered by the use of this means, and no real advantage gained by the substitution of other means of changing rotary into rectilinear motion, or *vice versa*. Practically, the speculative objections against the crank with the experiments based on them have never produced any device superior. The continued battle carried on against the crank, as a means to the end in view, has always ended in the discomfiture of the aggressor; the best method would seem to be to produce a new device and prove its superiority to the crank. The discovery will be welcomed by every earnest and honest mechanic.

Copper and Iron may be smelted together in almost all proportions, but it appears to be doubtful whether any homogeneous alloys can be produced. A small quantity of iron, added to bronze or brass, causes a considerable increase in tenacity. Malleable iron or steel, containing copper to the extent of 1.45 or 0.5 per cent. shows symptoms of red shortness, which become decided with a larger quantity.

Railway Resistance.—The resistance of a railway truck is about 7 lbs. per ton of gross load on a level; on an incline of 1 in 20 the resistance per ton will be 7 lbs. and one-twentieth of the load; on an incline of 1 in 30 it will be 7 lbs. and one-thirtieth of the load, and so on. At a fair walking pace a horse can maintain a steady pull of 180 lbs. to 200 lbs. on his traces. For a short distance he can pull much more than 200 lbs.

Working Inclined Planes.—Within the last few years rolled hoop iron has been substituted for wire ropes on some of the inclined railroad planes, in the Atlantic States, and have been found to work well. They appear to possess quite as much durability as the ropes, while the first cost is much less.

Sheet Iron Chimneys.—Minneapolis, Minn., has produced a sheet iron chimney which is made of three sheet iron cylinders, the space between the outer and second one being filled with ashes, thus securing safety from fire. It is lighter and safer than brick.

A one-horse power paper steamboat is being built at Ballston, N. Y.

Scientific Miscellany.

Champagne, etc., from Petroleum.—The fact is well known that Berthelot, long since, has succeeded in forming alcohol from the union of olifiant gas with water. Later experiments with the marsh gas series of hydrocarbons have also resulted in the production of an alcoholic beverage. It should be known that all productions of this character, from inorganic substances, although identical in composition with those derived from organisms, nevertheless possess certain properties quite unlike the latter—and properties, too, which totally unfit them for being taken into the stomach. In these days of adulterations, however, it may be useless to warn those who may require alcohol for medicinal purposes against the use of any decoctions containing spirit not made from sugar, grain, or the grape, from the fact that the real safeguard against this class of adulterations lies in the circumstance that no chemist has yet succeeded in producing from hydrocarbons, alcohol at as low cost as it can be made from Indian corn; and further, in the probability that the large area of land now being devoted to vineyards will result in the production of mild wines much cheaper than "doctored" dilutions of corn whisky, constituting the imitation.

Formation of Dendrites.—At a recent meeting of the Royal Geological Society of Ireland, Dr. Emerson Reynolds read a paper "On the Formation of Dendrites," an abstract of which we find published in the London *Chemical News*. He had some years since noticed that when solutions of salts, etc., were placed upon a plate of clean glass, and the glass placed between the poles of a Ruhmkorff's coil, the salts gradually work over the surface of the glass in beautiful moss-like forms, which in many cases were characteristic of the compound contained in solution—the state of dilution at the same time having considerable influence. The author proposed to call them "electric cohesion figures." To produce them we will say that a drop of a solution of cyanide of potassium is put in the center of a plate of glass, which is then placed upon a sheet of tin-foil. One pole of the coil is then brought into contact with the foil (it is immaterial which), and the other pole is placed in the center of the drop, immediately on passing the current the solution begins to creep over the surface of the glass in moss-like convolutions. The dendritic markings on minerals, the author believed, were formed under a similar condition. He exhibited a beautiful manganous dendrite taken out of the museum. It was a slab of concoidal limestone, and in Dr. Reynold's opinion illustrated his electrical explanation conclusively. There was originally a flaw in the limestone which was exactly at right angles with the plane of cleavage. Through these flaws, as was evident by the marks, the manganous solution had percolated, and had perhaps ultimately been the means of making the stone part in two, not, however, in the direction of the flaws, but in the plane of cleavage. The dendrites which were formed upon the surface, in this case were produced from the well known fact, that the two surfaces, at the instant of their separation, are in opposite electrical conditions. This phenomena may be illustrated to a certain extent, by inserting a drop of the fluid into the interstices of a plate of mica, and then, on suddenly parting the plate, the dendritic forms are shown. To fix them, the author dusts some finely dried pigment over the surface of the still moist plate, and then fixes this by some transparent varnish.

The Science of Fruit Syrups.—There is a fact of considerable importance which should be considered by persons engaged in preparing preserves: Cane sugar, by long boiling, is turned into grape sugar, and thus loses one-third of its sweetness. Grape sugar is less soluble than cane sugar, and when fruit juice has been sweetened and boiled for a long time, the grape sugar separates in the form of white crystals, and the juice is found to be deficient in sweetness. to obviate this, let the fruit juice be boiled by itself until brought to the proper consistence, and after it has become lukewarm, add the required quantity of white or loaf sugar. It will dissolve quite readily, and two important objects will be attained: First, a saving of sugar; second, the actual preservation of the fruit free from any of the effects of fermentation.

Color of Sun-Spots.—Before the Manchester Philosophical Society, at a meeting held April 14th, 1868, Mr. S. Broughton said that, on recently observing with high powers a group of fine spots on the sun, one of which was of considerable magnitude, it occurred to him to remove the dark glass, and by keeping the eye much beyond the focus of the heating rays, and at such a distance that the spot almost filled the apparent field of the eye-piece, to see if any phenomena could be observed different from those seen through the dark glass. The spot was at once seen to be of a dark red; but thinking this perhaps might be from the strong contrast of color, he attached a disk of plaster of paris to the telescope, and projected the image of the spot on it. On looking at this with a common pocket magnifier, the image was observed to be a dark blood red, although the observatory was not darkened, and the disk merely shielded from the direct rays by an intervening obaque substance. If these observations are confirmed, it will corroborate the opinion long held that the spots are not black, but appear so by contrast, and, as it would seem, from the intervention of the colored glass.

Size of the Stars.—How large are the stars, and are they alike, or do they differ in size? It used to be conjectured that they are of somewhat similar magnitude, presumably about as great as our sun, and that the differences of apparent size are due to differences of distance; but when astronomers came to discover that some of the smaller stars are nearest to our system, this idea fell to the ground. A German computer has now, however, calculated the actual dimensions of one particular star, and finds that its mass is rather more than three times that of the sun. The star in question is of less than the fourth magnitude—a comparatively small one. What, then, must be the size of those of the Sirius and Aldeharan class? The reason of its selection for this determination was, that it is one of the components of what is called a binary system—two stars revolving about each other, like sun and planet—and the motion of the members of such a system afford data for the computation. The star's distance from us is a million and a quarter times that of the earth from the sun, so that light takes twenty years to travel hither from it.

Action of Water on Lead.—Prof. Bottger, inquiring into the cause of the action of distilled water on lead, has found it to be due to the presence of carbonate of ammonia, and not, as is usually ascribed, to the air dissolved in the water. After having been boiled for a time, distilled water will not attack the lead until after a considerable exposure, when a reabsorption of ammonia and carbonic acid from the air where they are always present, may be supposed to have taken place. Bottger has further found that the alloying of the lead with a small amount of tin protects the former from being acted upon, and this fact suggests the advantage of purposely introducing a little tin into the metal from which lead piping is to be manufactured.

Singular Fact.—The *Engineer* notices a singular fact in relation to the behavior of the steam engine employed to drive one of Mr. Wilde's electro-magnetic engines. It appears that whenever pieces of iron rods or wires are placed in the circuit to be heated, *the engine slackens speed* when the metal begins to redden, the resistance to the action of the engine perceptibly increases in proportion as the heat of the metal increases, and it is only by the constant care of the engineer that a uniform rate of motion can be secured.

The Lava of Vesuvius.—M. Silvestri observed the eruption of Vesuvius in December last at maximum activity, and analyzed many of its volcanic products. The lava is dark gray, and sometimes greenish or reddish on the surface, has a crystalline structure, and exerts an energetic action on the magnetic needle. He classifies the lava in three kinds, varying in density from 2.46 to 2.81. One compact variety contained about two per cent. of water. Three distinct sublimates were found composed mainly of chloride of potassium and sodium and traces of copper. The greenish-brown sublimate contained 9.85 per cent. of copper.

New Chemical Discoveries.—Dr. Hoffmann has announced the discovery of a new acid, which bears the same relation to naphthaline that acetic acid bears to marsh-gas. A short time since the same eminent chemist communicated to the Royal Society the discovery of "the mustard oil of the ethyl series."

California Academy of Sciences.

REGULAR MEETING.

MONDAY EVENING, Aug. 3d, 1868.

President Blake in the Chair.

Messrs. A. L. Nolf, A. Warren and L. L. Treadwell, were balloted for, and declared duly elected.

APPOINTMENT OF AN ASSISTANT.

The President stated that the Council had determined to employ some one to keep the accounts in order, and look after the general business of the Society, which was now much in arrears, as the various Secretaries had no time to attend to it. The assistant would have a commission on his collections, and it was proposed to subscribe among themselves as much as would make the matter worth his while. The Council had already subscribed some twenty-five dollars per month toward this end, and the members would be asked to help.

LECTURE BY DR. GIBBONS.

Dr. Henry Gibbons was called upon by the President to deliver a lecture on Microscopic Parasites. The obscurity which attended these creatures furnished many plausible arguments for the theory of spontaneous generation. It used to be supposed that barnacles were formed from the froth of the sea, and that ducks and geese came from barnacles, by something like a Darwinian theory of selection. He alluded to the well known horse-hair worm, which many supposed to be the result of the vitalization of horse-hairs by placing them in running water. These worms had been found in the bodies of live grasshoppers, who seemed to enjoy life just as well as though they had been free from the parasites. The lecturer spoke of a worm which was even now appearing in the States. This animal pierced the limbs of fruit trees, and then laid its eggs. The limbs afterwards withered and broke off, falling to the ground. These insects appeared only once in 17 years. He remembered them first in 1817, next in 1834, then in 1851, and now again in 1868. He had no doubt of the correctness of this theory, though what became of the insects during the seventeen years he was unable to say. He only adduced this as an instance of the difficulty which naturalists encountered in tracing the origin and the cause of many of these parasites. He then gave an interesting account, illustrated by diagrams, of the growth of the yeast plant, which is produced by the simple multiplication of cells. Other minute plants, such as the *algæ*, or mosses, were propagated by spores, and others again were propagated by a distinct fructification. Animals also had different modes of propagation. One of these he described, as shown in a worm which was horn with certain rings or divisions round it. These rings or divisions gradually deepened, until the animal split into two or three, each of which segments set up a life of its own, and continued to divide and sub-divide until the smallest division, instead of breaking up, extended itself to the length of one inch, and proceeded to generate in the ordinary manner.

The potato disease was propagated by a microscopic plant, the spores of which were so small as to be invisible to the naked eye, and thus it was quite possible that the air might be quite full of them without their being perceptible. Mildew, blight and the smut of wheat arose in the same way, and the dry rot which affected timber was a fungoid growth. The "mother" of vinegar, as it was called, was a similar growth, and he had seen bread, brought over from Germany in emigrant ships, in which a vegetable growth had appeared which resembled a mass of clotted blood, and caused the food to be called "bloody bread." Some of the lower forms of vegetable life were apt to be mistaken for animals. Such were the *cilia*, or resemblance of eyelashes, which filament, appended to cells, at times moved, and gave rise to the idea that it was part of an animal. Such was the *volvox*, which was thought to be an animal because it moved through the water.

Recent microscopical investigations had led to the belief that the *spermatozoa*, until lately supposed to have animal life, were, really, only vegetable, furnished with *cilia*, whose motion led to the mistake. Vegetables were often formed in the intestines of animals, nor was the human animal exempt from these *entozoa*, although he was freer from them in America than in the European countries. *Entozoa* seldom had *entozoa* within them, but they were found to contain vegetable parasites. Thorough cooking killed *entozoa*, but they might survive partial cooking, and breed in the intestines.

The lecturer then proceeded to show by illustrations how insects were afflicted with vegetable parasites. In one instance a small beetle had been found to contain what, enlarged by the microscope, looked like a cactus some twelve feet long, to which a couple of good sized gooseberry bushes were growing. Other animals, eels, etc., carried about with them alternate nuisances, in the shape of vegetable and animal parasites, some of which preferred the interior and others the exterior of the animal, but showing a partiality for the region of the stomach at most times.

The science of microscopic parasites had associated itself latterly with the study of medicine, it having been found that some forty-six varieties of skin diseases were produced by vegetable growths. It had been asserted by Salisbury that intermittent fevers were produced in this way; but the lecturer doubted this. It had been asserted also that malignant cholera was owing to a vegetable growth in the intestines, but it was difficult to tell whether the vegetable growth was a cause or an effect. He believed, however, that, as was generally the case with new discoveries, this was being carried too far, and scientific men would probably eventually settle down far within the mark aimed at by Salisbury. He gave an interesting account of the tape-worm, which was really the development of a worm which could only be developed in the intestinal canals of certain animals. When the germ, which was taken in the food or drink, found its way through the intestinal canal, it frequently caused hydatids, themselves thought at one time to be living animals. When the germ remained in the intestine, however, it developed into the true tape-worm, of which the hydatid was only an undeveloped effect. In some parts of the world tape-worm was very prevalent, and was said to be extremely common in Norway.

Dr. Kellogg observed that the wild rabbit of this country was much affected by hydatids, and that he knew of several cases wherein persons attributed tape-worm to the eating of such food.—*Times.*

LARGE LUMPS OF COAL.—A mass of coal weighing nearly three tons, was recently taken out of an English coal mine, (Wyndam Pit, Agmoro Valley). This lump was taken out for exhibition at the neigbboring Plymouth Fair. This was considered a very large lump of coal, and greatly admired and wondered at.

Large as this lump was, however, an other was soon afterwards raised from the same mine, by the side of which this was but a diminished specimen of a "black diamond." The second lump could not be weighed by any appliance at hand, but was estimated to weigh over *eleven tons*. The labor and cost of getting out this monster block was very great, and was personally supervised by a most experienced staff of mining engineers. After it was loosened from its "bed" it had to be moved about 50 feet to reach the bottom of the pit, up which it was hoisted with the greatest difficulty. The operation of raising, by aid of steam, horse and man power, occupied thirty-five hours of constant labor. The block was carefully protected by clamps, and bound around with heavy iron tackle to prevent its falling into pieces. With all their precaution, however, it was badly cracked, though held from falling apart by its iron bands. This is probably the largest piece of coal ever moved in a single block. It was to be sent to the French Industrial Exhibition at Havre.

THE PETROLEUM YIELD OF THE UNITED STATES, although it has slightly fallen off within the last two years, is by no means materially on the decrease, notwithstanding the dying out of the late petroleum fever. The quantity of refined petroleum exported is also kept up. The export for the three years past has been as follows: In 1865, 755,456 barrels were sent abroad; in 1866, 1,679,400; in 1867, 1,679,112. The production of 1867 was about 4,000,000 barrels; the production for the present year, according to the best authorities, will come fully up to 3,650,000, and may possibly reach the higher figure of 1867.

VISITORS at the Fair will now have an opportunity of getting spectacles of any kind they want and adapted to their eyes, at Muller's Spectacle Emporium, 205 Montgomery street, near Bush. *

California Inventions.

If we were seeking for evidence to prove that any particular class of individuals was really an enlightened and thinking class, we would desire none better than a knowledge of the fact that they were inventors. Inventors are always thinkers. A few, indeed, may accidentally stumble upon some new device, but their inventions are generally of an unimportant character. New discoveries are made daily—some may benefit mankind; others fall to the ground without ever receiving a second notice. Of the latter kind, a great majority are the result of accidents, or are originated in the brain of some person whose sole aim is to raise a stake, by making some one think that he has something valuable, merely because he has a patent. But nothing is more true than the old adage, that "necessity is the mother of invention."

In this State, our strong hold is on mining machinery, devices for separating gold from the rock as it is found in its natural state and saving it; and in this we excel. The cause is necessity. We found here mountains in whose bowels lay millions of dollars, as they were deposited by the mysterious workings of Nature. To extract and save this it was necessary to have the proper machinery and processes for working the ore. Our State, and the Pacific Coast generally, became the home of an intelligent and thinking people, and behold the result—the mountains have been leveled, the gold-bearing rocks have been brought to the surface, crushed, and the gold extracted by means of machinery mostly devised by our own people; and to-day California is credited by miners in all parts of the world, as being the source of our best gold-saving apparatus. Our State is also the home of the originators of several inventions of great value and of different natures. The steam plow and various new anchors of merit, are the result of California genius. All this proves that we are a thinking people, and that we have among us that power which has been the great motor of the American nation—INVENTION.

GOVERNMENT TITLES TO MINES.—It appears from recent intelligence from Washington, that the Commissioner of the General Land Office has just finished and made ready for transmission to this State the first patent issued under the National Mining Act of July 26th, 1866. The patent covers a very valuable quicksilver claim in Monterey County, township No. 18 south, range No. 11, east of Mount Diablo meridian. It appears that applications under this law have not been acted upon as speedily as would be desirable, on account of the novelty involved in the proceedings, and the want of experience in dealing with this class of applications.

The Clear Creek claim was returned to California for correction. On the 11th of June last the papers complete were forwarded, and have reached the General Land Office, meeting all the requirements of the law. The patent just prepared grants 6,000 feet to the Clear Creek lode, with sufficient surface ground for the convenient working of the same; and in point of mechanical execution, it is one of the most beautifully finished documents ever issued from the Department. All other claims under the act will be patented as promptly as the applicants bring themselves within the requirements of the statute, a matter that will be attended with less perplexity in the future than heretofore, on account of the experience that has been acquired by the various officers whose action is needed in the preliminary stages of the proceedings. This branch of the land service is one of the greatest importance, extending its operations over the surface of more than one thousand mineral localities.

NEW INCORPORATIONS.—Articles of incorporation have been recently filed in the County Clerk's office in this city as follows:

ZECH PIANOFORTE CO.—Aug. 4th. Capital stock, $150,000; 1,500 shares, $100 each. Trustees: Jacob Zech, Chas. Kohler and Edward F. Ohm.

Hall's Patent Knife.

The accompanying cut represents Hall's Patent Jacket Knife and Door Button. The dotted line shows the manner in which the tapering screw is fastened on the back of the knife-handle, so as to permit of its opening and closing. When the screw is at right angles with the handle, the instrument may be used as a button for fastening



a door against burglars; for a cork screw; for making holes for starting screws; for forming a temporary hook for hitching horses, and various other purposes. It adds but little to the weight and expense of an ordinary knife, while it enhances its usefulness. Patented July 23d, 1867. Dr. A. W. Hall, the inventor, No. 208 Broadway, N. Y., is manufacturing the knife in this country, and we wish him success in patronizing American artisans.

DIAMOND MAKING.—Efforts to obtain artificial diamonds will probably never cease until that much-prized jewel is as cheap as the most ordinary variety of precious stones. The latest effort which we have heard of in that direction, is that of a party who directs a stream of chlorine gas upon cast iron kept in a state of fusion. The iron is sublimed in the form of perchloride, and the carbon is left behind, but not, we suspect, in the shape of a diamond. Carbon is always present in cast iron, but no donht uniformly in the graphitoidal form, and all the above experimenter can get for his trouble, will be a little black-lead. The nearest thing to an artificial diamond yet obtained, is in the form of crystallized carbon carried over by a current of electricity from a positive to a negative pole in the production of the electric light by the use of charcoal points.

A LIVE PAPER.—The Reese River *Reveille* is one of our most welcome visitors. We never pick it up, but what we feel that we will be repaid for our trouble before we lay it down, and we are seldom disappointed. Published as it is, in the heart of one of the finest mining regions in the country, it devotes the most of its energies to giving its readers information concerning them, which will surely benefit the Reese River and surrounding country. Every person interested in the development of that portion of Nevada should take it. We value, and would not wish to be without it.

THE NEW YORK POST OFFICE.—The gross amount of mail matter handled in the New York post-office in 1864, was about forty-one tons daily; in 1867 it was ninety-five tons—an increase of 130 per cent. in three years! It now averages, in bulk, 200 wagon loads every day. The number of letters dispatched is about 250,000 per day—an increase of about 400 per cent. in ten years.

WE notice that a job-printing office has been opened here by the ladies' on the co-operative plan, but the most popular and best patronized is the Woman's Cooperative Union, No. 39 Second street, for making and mending shirts and other useful articles. *

THE Mechanics' Fair is thrown open today. A large number will be here from the country. We hope that no one will leave the city without a visit to Woodward's Gardens. More can be seen there for twenty-five cents than anywhere on this continent.

S. T.—1860—X.—The unprecedented and extraordinary demand for Plantation Bitters is evidently owing to their being prepared with pure St. Croix Rum, Calisaya Bark, etc. Our druggists all complain that it is almost impossible to keep a supply, and that their orders, owing to the great demand and limited supply, are but tardily executed. Be sure and get the genuine. *

New Patents Issued to Pacific Coast Inventors.

Specially reported by the U. S. Patent Office, Washington, D. C., to Dewey & Co., American and Foreign Patent Solicitors, and Publishers of the Mining and Scientific Press.

Issued for the Week ending July 21, 1868.

80,063.—Improvement in the Manufacture of Ice.—Robert S. Eghort, Colfax, Cal.:

I claim forming artificial ico in houses or receptacles by spray, sprinkling or dropping water through a pipe or pipes C, or vessels, pierced with holes a, a, a, or their equivalents, substantially as described.

In summer time when the thermometer stands up in the hundreds, ice is one of the appreciable luxuries of life, and in some climates where the cold is not intense enough to freeze ice readily, and where the cold snaps are of short duration, it is difficult to obtain. This invention is intended to overcome those difficulties, and consists of a house or number of houses, arranged with numerous doors, which may be thrown open at night to lower the temperature of the room. A pipe or pipes which are perforated pass through the room, and water is admitted into them from a tank, or otherwise. The water drips through the holes in the pipes, and falling, congeals and forms ice. Branches of trees may be placed beneath the pipe, in order to more thoroughly divide the water, by its falling upon them, causing it to freeze almost instantly. By this means ice can be formed in climates where the outside atmosphere does not affect solid bodies of water, forming in a solid mass of ice.

80,124.—Improvement in Harvester.—Olpha Bonuey, Jr., of San Francisco, Cal.:

1. I claim a helper, of substantially a triangular form, having the upper inclined edge c, and ribs d, for elevating the grain or stalks, as herein recited.

2. The wheel j, adjustable bark, and box l, for the purpose set forth.

80,176.—Improved Bed Bottom.—Philip Hinklo, San Francisco, Cal.:

I claim the combination of the rod *m* in the recess, hands l and k, suspender j, bridge f, wires h, and slats c, as herein set forth.

80,228.—Improvement in Horse Powers.—Andrew Smith, Dayton, Oregon:

I claim the shaft d, in the frame E, arranged so as to be capable of being adjusted in two different directions by means of the screws J, G, connected respectively with the slides H, and bearings E, as indicated by the arrows 1, 2, in combination with the frame A, containing the driving belt D, and rollers c, c, and the belt N, with the shaft K, in frame E, all arranged for joint operation, substantially in the manner as and for the purpose set forth.

REISSUES.

3,443.—Improved Machine for Collecting and Condensing Metallic Vapors.—Ferdinand Formhals, San Francisco, Cal.:

1. I claim in combination with the furnaces A, the screw or submerger F, formed by a covered spiral flange or blade H, H, around a central shaft or axis, substantially as and for the purpose described.

2. Driving the volatile substances from the furnace into the submerging tank E, by the screw F, from thence along the spiral opening to the chamber I, and out through the pipe J, to the condensing tank or tanks, substantially as described.

3,445.—Improvement in Fermenting and Oxidizing Mash, Malt, etc.—R. d'Heureuse, San Francisco, Cal.:

I claim the improved mode of facilitating fermentation or germination by the introduction of air or other gaseous substance of proper temperature and moisture, with mash for distilling vinous or other substances subject to fermentation or germination at or near the bottom of the same, substantially as and for the purpose described.

RECENT INVENTIONS.

New System of Propulsion.—A gentleman of Detroit, Mich., has invented a new system of propulsion, which he claims will revolutionize the present steam method. His plan consists of four iron air-tight cylinders, cone-shaped at the ends, which run the entire length of the boat. In these cylinders are shafts, on which are adjusted continuous screw threads answering for buckets. With these he expects to be able to propel a boat at the rate of thirty-five miles an hour.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE.
Alameda Coal, June 25, $1	Aug 4	Aug. 24
Amador Co., dividend, $6 per share	Payable July 20	
Apollo, Lander co., Nev. June 15, $10	July 17	Aug. 3*
Alpha Cons., Storey co., Nev., June 23, $5	July 27	Aug. 15
Adriatic, Storey co., Nev.	Special Meeting Aug. 15	
Adriatic, Storey co., Nev., May 20, $1	June 30	Aug. 17*
Bacon, Storey co., Nev., div.	Payable June 19	
Belcher, Storey co., Nev., July 13, $25	Aug. 13	Sept 14
Bear River, Nevada co., June 10, $1	July 29	Aug. 17*
Chiptonena, Mexico, July 9, $5	Aug. 13	Aug. 31*
Cherokee Flat R. G., Butte co., July 1, $5	Aug 4	Aug. 24
Crown Point, dividend, $7.50	Payable July 11	
Daney, Lyon co. Nev., July 27, $2	Sept. 1	Sept. 20
Enterprise, Meadow Lake, July 11, $1	Aug. 11	Aug. 27
El Tesoro, Mex., June 18, 25c	July 25	August 16
Empire M. & M., Nev., dividend $6	Payable May 15	
Folsom St & F. Pt R. R. Co., July 30, $5	Aug. 29	Sept. 14*
Fogus, Amador co., June 3, $5	July 21	Aug. 12*
Glove, Alpine co.	Special Meeting, Aug 21	
Gold Hill Tun., Storey co., Nev July 18, $2	Sale Sept 9*	
Gold Hill Q M & M—dividend, $7 50	Payable July 13	
Golden Rule, Tuolumne co, div 50c ₱ sh	Payable June 26*	
Hope Gravel, Nevada co, July 20, $1	Sept. 10	Oct. 5*
Halo & Norcross, Storey co., Nev, July 22, $10.	Sale Sept 14	
Imperial, Storey co, Nev., div.	Payable June 18	
Kentuck, div., $10 per share	Payable Aug. 10	
Kearsarge, Inyo co., Aug. 4, $	Sept. 4	Sept. 21*
Kohler Bros., L. C., July 2, 25c	Aug. 6	Aug. 27
Lady Bryan, Storey co., July 25, $1	Payable immediately.	
La Victoire, Mariposa co., July 15, 60c	Aug. 18	Sept. 4
Morning Star, Alpine co., July 15, $2 50	Aug 17	Sept. 7
North Star, dividend, $5	Payable June 15	
Ophir, Storey co., Nev., June 15, $1	July 20	August 10
Pacific Unassessable, div.	Payable June 18	
Rattlesnake, Yuba co., Aug. 7, $2	Sept. 10	Sept. 28*
Rose Linda, Alpine co., July 25, $5	Sept. 1	Sept. 16
Rising Star, Idaho Ter., June 24, $50	Aug 8	Sept. 9
Rising Star, Idaho.	Special Meeting Aug. 15	
Silver Sprout, Inyo co	Special Meeting, Aug 31*	
Silver Sprout, Inyo co, Aug. 4, $30	Sept. 4	Sept. 21*
Siempre Viva, Mex., June 15, 50c	July 31	August 17
Santiago, Carter city, dividend	Payable July 9	
Savage, Virginia, Nev, dividend, $15	Payable July 10	
Sierra Gentoa, Nevada, June 30, $5	July 30	Aug. 21
Sand Spring Gelt, dividend $1	Payable June 5	
United States, Storey co., Nev., June 29, $1	Aug. 3	Aug 19
Union, Storey co., Nev.	Annual Meeting, Aug. 10	
Virginia & G. H. Water Co.	Dividend, payable May 15	

*Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. Stock and Exchange Board.

MISCELLANEOUS STOCKS.	Friday Evening, Aug 7, 1868. Bid.	Asked.
United States Bonds, 5 20s	$ 75	78
Legal Tenders	69¾	70
California State Bonds, 7s, 1857	90	95
San Francisco Bonds, 10s, 1851	102	103
San Francisco City Bonds, 6s, 1855	83½	—
San Francisco City and County Bonds, 6s, 1858	89	—
San Francisco City and Co. Sch'l Bds, 7s, 1856	97¾	—
San Francisco City and Co. Bonds, 7s, 1862	87	—
San Francisco City and Co. Bonds, 7s, 1864	84	85
San Francisco City and Co. Bonds, 7s, 1865	84	85
San Francisco City and Co. Judg. Bds. 7s, 1863	84	85½
San Francisco City and Co. Judg. Bds, 7s, 1864	83½	—
Sacramento City Bonds	23	25
Sacramento County Bonds, 6s	75	—
Marysville Bonds, 10s	75	85
Stockton City Bonds	70	85
Yuba County Bonds, 10s	76	80
Santa Clara County Bonds, 7s	78	85
Butte County Bonds, 10s, 1859	10	75
San Mateo County Bonds, 7s	75	17
California Steam Navigation Co.	70½	—
Spring Valley Water Co.	66	—
State Telegraph Co.	25	30
GAS COMPANIES.		
San Francisco Gas Co	74¼	78
Sacramento Gas Co.	80	—
RAILROADS.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	76	80
Central Railroad	50	60
North Beach and Mission Railroad	73½	75
Front Street, Mission and Ocean Railroad	11	12
BANKING INSTITUTIONS.		
California, Loan and Savings Society	—	—
Pacific Bank	97½	—
The Bank of California	157	153
INSURANCE COMPANIES.		
Firemans' Fund Insurance Co.	85	86
Pacific Insurance Co.	117	120
San Francisco Insurance Co.	—	100
Merchants' Mutual Marine Insurance Co.	470	483
California Insurance Co.	1300	1400
Union Insurance Co.	88	89
California Home Insurance Co.	—	—
Home Mutual Insurance Co.	19½	20
Occidental Insurance Co.	78	80
National Insurance Co.	—	—
Builders' Insurance Co.	90	—
MINING STOCKS—WASHOE DISTRICT.		
Alpha	43½	44
Baltimore American	—	—
Belcher	110	120
Bullion, G. H.	20	21
Crown Point	85	85¼
Confidence	30	35
Chollar-Potosi	130	132
Caney	3¾	6
Exchequer	17	18
Empire Mill and Mining Co.	111	115
Gould & Curry	98	100
Gold Hill Quartz	65	67
Hale & Norcross	74	75
Imperial	107	108
Kentuck	380	382
Lady Bryan	14	15
Ophir	21	22
Overman	78	80
Savage	124	125
Sierra Nevada	34	35
Yellow Jacket	1050	1150
Golden Rule, California	10	15

San Francisco Market Rates.

Wholesale Prices.

Friday, Aug. 7, 1868.

Flour, Extra, ₱ bbl	$ 575	@$6 50
Do. Superfine	5 25	@ 5 50
Corn Meal, ₱ 100 lbs	3 25	@ 3 50
Wheat, ₱ 100 lbs	1 65	@ 1 75
Oats, ₱ 100 lbs	2 35	@ 2 50
Barley, ₱ 100 lbs	2 00	@ 2 75
Beans, ₱ 100 lbs	3 00	@10 00
Potatoes, ₱ 100 lbs	1 05	@ 1 15
Hay, ₱ ton	10 00	@15 00
Live Oak Wood, ₱ cord	9 00	@10 00
Beef, extra, dressed, ₱ lb		@ 10
Sheep, on foot, ₱ lb	3 00	@ 3 50
Hogs, on foot, ₱ lb	5	@ 7
Hogs, dressed, ₱ lb	8	@ 10
GROCERIES, ETC.		
Sugar, crushed, ₱ lb	14¾	@ 15
Do. China	10	@ 11½
Coffee, Costa Rica, ₱ lb	15½	@ —
Do. Rio	—	@ 17
Tea, Japan, ₱ lb	65	@ 85
Do Green	60	@ 1 25
Hawaiian Rice, ₱ lb	—	@ 9
China Rice, ₱ lb	6	@ 9¾
Coal Oil, ₱ gallon	35	@ 40
Candles, ₱ lb	15	@ 18
Ranch Butter, ₱ lb	35	@ 45
Isthmus Butter, ₱ lb	30	@ 35
Cheese, California, ₱ lb	14	@ 18
Eggs, ₱ dozen	35	@ 40
Lard, ₱ lb	13	@ 15
Ham and Bacon, ₱ lb	12	@ 16
Shoulders, ₱ lb	9	@ 10

Retail Prices.

Butter, California, fresh, ₱ lb	40	@ 50
do. pickled, ₱ lb	25	@ 35
do. Oregon, ₱ lb	15	@ 25
do. New York, ₱ lb	35	@ 40
Cheese, ₱ lb	20	@ 25
Honey, ₱ lb	25	@ 30
Eggs, ₱ dozen	45	@ 50
Lard, ₱ lb	15	@ 17
Hams and Bacon, ₱ lb	20	@ 25
Cranberries, ₱ gallon	85	@ 1 00
Potatoes, ₱ lb	2	@ 3
Potatoes, Sweet, ₱ lb	3	@ 5
Tomatoes, ₱ lb	5	@ 6
Onions, ₱ lb	—	@ 5
Apples, No. 1, ₱ lb	4	@ 5
Pears, Table, ₱ lb	5	@ 7
Plums, dried, ₱ lb	11	@ 13
Peaches, dried, ₱ lb	10	@ 11
Oranges, ₱ dozen	75	@ 1 00
Lemons, ₱ dozen	1 00	@ 1 50
Chickens, apiece	50	@ 75
Turkeys, ₱ lb	20	@ 25
Soap, Pale and C. O.	7	@ 12
Soap, Castile, ₱ lb	15	@ 16

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

Friday, Aug. 7, 1868.

Iron.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1½c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2¼ ₱ lb.

Scotch and English Pig Iron ₱ ton	$40 00	@$42 50
White Pig ₱ ton	35 00	@ 38 00
Refined Bar, bad assortment ₱ lb	— 03	@ — —
Refined Bar, good assortment, ₱ lb	— 04	@ — —
Boiler, No. 1 to 4	— 04¼	@ — —
Plate, No. 5 to 9	— —	@ — 04¼
Sheet, No. 10 to 13	— 04¼	@ — 5
Sheet, No. 14 to 20	— 05	@ — 5¼
Sheet, No. 24 to 27	— 05	@ — 6¼
Copper.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb		
Sheathing, ₱ lb	— 28	@ — 26
Sheathing, Yellow	— —	@ — 22
Sheathing, Old Yellow	— 11	@ — —
Bolts	— 21	@ — 22
Composition Nails	— 21	@ — 22
Tin Plates.—Duty: 25 ₱ cent. ad valorem.		
Plates, Charcoal, IX, ₱ box	12 50	@ 13 00
Plates, IC Charcoal	11 00	@ 11 50
Roofing Plates	10 50	@ 11 00
Banca Tin, Slabs, ₱ lb	— —	@ — 30
Steel.—English Cast Steel, ₱ lb	— —	@ — 15
Quicksilver.—₱ lb	— 55	@ — 60
Lead.—Pig, ₱ lb	— 7½	@ — 8
Sheet	— 10	@ — —
Pipe	— 11	@ — —
Bar	— 9	@ — 9½
Zinc.—Sheets, ₱ lb	— —	@ — 9½
Borax.—California, ₱ lb	— 20	@ — 23

San Francisco Prices of Copper Ores.

San Francisco, Aug. 7, 1868.

We give the following as an approximate price at which copper ores can now be sold in this city. There is no sale for ores which assay less than 12 per cent. The late reduction in price is on account of the advance of freight:

	Per ton.		Per ton.
12 per cent. ore	$16 00	22 per cent. ore	$43 56
13 " "	18 62	23 " "	46 45
14 " "	23 20	24 " "	49 33
15 " "	23 35	25 " "	52 22
16 " "	26 22	26 " "	55 11
17 " "	29 12	27 " "	58 00
18 " "	29 91	28 " "	60 80
19 " "	34 90	29 " "	63 77
20 " "	37 78	30 " "	66 66
21 " "	40 67	31 " "	69 55

These prices, we believe, will be found substantially correct, and can be realized at this date.

A. T. Dewey. W. A. Ewer.

THE BEST IN AMERICA.

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Is the Largest and Best MINING AND MECHANICAL Newspaper issued in the United States.

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To the practical mechanic, metallurgist, prospector, miner, mine holder or worker, it is worth many times its subscription price. Its files contain a record of the improvements in mining machinery, the progress and development of the mines, and all new methods and processes for working and

SAVING PRECIOUS METALS,

All progressive information, in fact, transpiring with the TIMES—which cannot be obtained from books.

The Mining and Scientific Press is now in its Sixteenth Volume, and enjoys a large circulation. It received the following hearty endorsement of the California Miners' State Convention, held at Sacramento, January 17th, 1866:

Resolved, *That we regard a mining paper or journal of great importance to the mining interests of California, and recommend the* Mining and Scientific Press, *of San Francisco, to the consideration and support of the miners of the Pacific coast.*

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DEWEY & CO.,

Jan. 1st, 1868. San Francisco.

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For Scholars, Teachers, Lawyers all Professional Persons, and those of Common Education, who would improve the Eloquence and Effectiveness of their Composition and Manners of Address.

Price, postage paid, - - - - $1.10

This is a new publication, and in style and treatment of this important subject, is original, simple, plain and comprehensive. The author, Prof. Layres (a meritorious Teacher of good standing in California, and a sound thinker and reasoner,) in his preface says: "The method pursued by the Author in developing the subject of Composition, is both the synthetical and analytical. The former is necessary to teach the *theory*, the letter the *practice* of the art; and as these are both indispensable to the scholar, so are also the two methods, as the sequel will show."

The Work has lately been approved and authorized by the State Board of Education for use in the Public Schools.

To further illustrate the varied and popular endorsement the book has so rapidly received, we quote the following

RECOMMENDATIONS:

It is simple, concise, and well arranged. It seems to be a work of great value.—*John Swett.*

I am prepared to concur in the recommendation of the Honorable Superintendent of Public Instruction.—*J. C. Pelton.*

After as careful and thorough perusal of the same as it was in my power to give, I came to the conclusion that, for conciseness, correctness, and precision of definition, as well as for completeness and simplicity of style, it was, and would be, without a rival. I regard your work as the best of its kind. I know of but few men in any profession who would not be benefited by its careful study.—*Wm. H. Hill.*

I regard it as one of the best treatises upon these important branches—perhaps the only one obtainable—possessing equal advantages—combining comprehensiveness with conciseness, and of such simplicity in its arrangement as to be readily understood by the advanced pupil.—*F. W. Hatch.*

It is admirably arranged to develop the correct idea of the analysis and synthesis of language, and the amplification of ideas into sentences and periods. The style is clear, terse and pleasing. I do not hesitate to recommend it as a great acquisition to our text books.—*James Denman.*

I am happy to express my conviction of the value of the whole treatise. It would give me much gratification to see so thorough and excellent a treatise emanate from young California.—*Martin Kellogg.*

I recommend it to all those who wish to obtain a book that will give them definite ideas on this subject, and teach them to express their thoughts and feelings in a clear, simple, and forcible manner.—*Caroline L. Atwood.*

I regard the book about to be published as far superior to any work extant upon that subject.—*Wm. S. Hunt, A. M.*

I believe the work will be a valuable and much needed addition to our school text-books.—*Hermon Perry.*

You have brought the results of a profound analysis, and made them available, in a practical form.—*I. H. Brayton.*

I can recommend it particularly to my young friends of the legal profession, as a source from which they may be able to learn much of value as special pleaders and as advocates at the forum.—*John Curry.*

The subjects upon which you treat have heretofore been too much neglected in the education of young men in America. * * Exactly calculated to interest. * * It will soon become a necessity in every lawyer's library.—*Charles A. Tuttle.*

Its clearness and comprehensiveness make it easy.—*G. W. Bowie.*

A gentleman of varied learning and ripe culture, who has half a dozen languages at his tongue's end. He seeks to teach the student not only how to take sentences apart, but how to construct them. His system has the merit of originality. We know of no work in which can be obtained so lucid an exposition of the elements of composition, and such valuable assistance in learning how to put his ideas into language. Prof. Layres has done the cause of popular education good service.—*S. F. Bulletin.*

This is a San Francisco book by a San Francisco author. It contains 166 pages, and is altogether creditable to San Francisco. It meets a public want, and meets it in a form and size cheap and convenient, and in reach of the humblest.—*Alta California.*

The writer, the lawyer, the minister, or the statesman, may study its rules and definitions with profit. Nothing conduces more to the purity of a national literature, taste than a general and thorough knowledge of the rules by which the construction of language is governed.—*S. F. Times*

Prof. Layres plunges at once "*in medias res.*" He seizes a sentence (which is the unit in composition, whether written or spoken,) holds it up before you; tears it to pieces before your eyes—or rather, we should say, neatly and skillfully dissects it—displays one by one its several parts; makes you thoroughly acquainted with each, in its entirety; and then shows you how to put them together again. A series of such experiments, increasing in complexity so gradually that you do not feel the difficulty, and the thing is done; you are master of the subject.—*Mining and Scientific Press.*

Its design is to show that ideas can be so arranged as to increase their power; in short, to teach the mechanism of composition, eloquence and oratory. A desideratum long felt is supplied.—*S. F. Examiner.*

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The most eminent educators in California give it their hearty approval, and we concur.—*Marysville Appeal.*

Not only one of the best of its kind, but, what is still better, one of the briefest. It contains 156 pages.—*Virginia Enterprise.*

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Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County.

Markleeville *Miner*, July 25th: The Mountain tunnel has experienced a change; the rock which has been for a long time firm, tenacious granite, is now of a mixed character consisting of quartz and a kind of substance which so far defies classification by the experts here. Much better headway can now be made.

Mr. Thompson of the Pittsburg Co., has a proposition before the Trustees of the IXL Co. to enter their tunnel and drift on the lode, giving them the ore taken out, to the north extension belonging to said Pittsburg Co. Should the terms he accepted, and the two Trustees just here are in favor of it, five men will he put on immediately, and the continuity of the vein he proved.

The Rippon tunnel is now in a broken quartz mass, and shows much ore of low grade. The quartz is getting better as the body is penetrated.

Chronicle, July 25th: The Illinois California have at last got through the hard granite, and are in very easy-going rock, in which no blasting is required, and it is supposed the Sacramento ledge is close at hand.

Last Saturday we were shown a beautiful specimen of crystalline quartz, one of the greatest curiosities ever seen. It was taken out of the Mountain tunnel, near this town, by Supt. McCuen. This specimen is about the size of a man's fist; many of the crystals being over an inch in length and well proportioned. In the center of the specimen, the crystals have formed a small cavity in which there is a small block of quartz, perfectly white and highly polished, resembling a massive block of marble in miniature. The block is about an eigbth of an inch in thickness and about an inch wide and long, and stands upright, the bottom and rear being imbedded in the crystals. It has been sent to San Francisco for exhibition at the Mechanics' Institute Fair, after which it will be exhibited at the State Fair.

Amador County.

Jackson *Ledger*, Aug. 1st: We understand that some very rich rock has recently been taken out of Old Bob's claim about a half mile from town, and that it is getting richer as they sink down.

Another rich vein of rock has been struck in the Coney & Bigelow mine.

Calaveras County.

Chronicle, Aug. 1st: On Thursday last quite a large party assembled at Messrs. Hill & Homer's new quartz mill, to witness the first start. At about 2½ o'clock sufficient steam had been generated and the engine was started. Everything worked smoothly—no jar of the building or creaking of the machinery being felt. The mill and engine, with the exception of the battery, was the Mina Rica, of West Point, and was constructed by Milo J. Ayer, of San Francisco, and is a model of neatness, economy and durability. The battery is one of Mr. Ayer's patent, and is said to be equal to any in use. The engine was set up under the superintendence of Mr. W. E. Glasby. After running about half an hour the engine was stopped. The mill and mine were then formerly christened by Mr. Homer, the Quaker City.

A gentleman from Railroad Flat exhibited to us, one day this week, some very rich specimens of gold-bearing quartz taken from a lead discovered by himself and partner, recently, on the South Fork of the Mokelumne river, in Railroad Flat district. He represents the lead as three feet wide and shewing gold the entire width. The owners think it the same vein on which is located the famous Petticoat claim.

As work on the Petticoat lead progresses, its prospects become more flattering. Mr. Said started the mill the first of this week, after having thoroughly overhauled and repaired it, and is engaged crushing as good rock as ever came from the claim. He expects to be able to take out rock in quantities sufficient to keep the mill constantly employed.

Nevada County.

Transcript, July 31st: We learn that all who are working the bed of Deer Creek are doing well. One company is reported as making $25 per day to the man. Last fall a gentleman sold out a claim on the creek, a short distance below town, for a nominal sum. The buyers have this season been taking out as high as an ounce per day to the man.

At this time in the old and well worked districts new developments are being made. Bedrock tunnels are being run for the purpose of opening basins and channels at greater depth, and new projects are being inaugurated for the same purpose. At Columbia Hill the miners have never been able to work off the rich deposit of gravel half way to the bedrock, and they have been for a year or two endeavoring to make some arrangement by which a bedrock tunnel can be opened from the Yuba, giving the sufficient fall to work out the entire deposit. Near Moore's Flat, the Kentucky Blue Gravel Co. are prospecting for a gravel deposit with an excellent show of success. Several other companies are organized for the same purpose. This channel is out of the district now worked at excellent profit. The range of gravel extending from Quaker Hill to the Cascades on Deer Creek and across the stream, has been comparatively unprospected above Quaker Hill, where mines of great richness have been worked. At the Cascades some five or six prospect tunnels are now being run and excellent prospects have been found, Ragan & Co. taking out as high as $34 to the pan. At Chalk Bluff, Dr. Farnham, and the company of which Mr. Stranahan is superintendent, are engaged in extensive prospecting, and they have succeeded in finding rich gravel. On the Little York ridge, the old Gardiner claims, recently purchased by Squires, Cozzens and Atkins, are being worked at different parts of the county, which are sure to add considerably to the area of ground worked. We have only instanced a few of the operations which have been started for the purpose of developing new mines or working older ones to better advantage. There is still a large district of country in this county entirely unprospected which will in time be opened. The older mines were never yielding better than at the present time, and there is every indication that the yield will not be diminished, at least during the present generation.

Gazette, Aug. 3d: Mr. Perkins, of San Francisco, has discovered an auriferous deposit near Omega, which is supposed to be very rich. The claim was located for a San Francisco company, and Mr. Prescott has been appointed to superintend the opening of the deposit. He has made arrangements to have 20 tons of the rock crushed in the Oriental mill at Nevada. The rock, in quantities almost inexhaustible, can be excavated with the greatest ease, and the crushing can be done very cheap.

Aug. 4th: The necessary repairs on the flume of the South Yuba Co., at Steep Hollow, were completed on Saturday last, and a full head of water for the Snow Mountain ditch again turned on.

EXCELSIOR.—*Transcript*, July 31st: J. Figuiere & Co. have located 1,800 ft. on the Pacific ledge, Meadow Lake district, adjoining the Pacific Co's ground on the north.

Gold Hill *News*, Aug. 3d: The Lake Co. at Meadow Lake, will commence work again soon. There are 700 ft. in the claim, and the ore is rich in free gold, with but very little silver. It assays as high as $175 per ton, and some of it worked in an arastra yielded an average of over $30 per ton.

The Pacific ledge has a shaft 75 feet deep. The ledge is about six ft. wide, and the ore rich in free gold; some of it, worked at Grass Valley, yielded as high as $72 per ton. The company are about having a run of the ore made at the Winton mill, owned by Treadwell, of San Francisco. The Silver Prize is a very excellent location. The Grant and Kentucky Cos. have each struck some very good ore within the past week, and their prospects never looked better.

The famous Mohawk and Montreal mine, at Old Man Mountain, shows an immense amount of work done; more than any other in the district. Plenty of ore averaging $30 per ton is developed, and the new 10-stamp mill of the company is about starting into operation.

Placer County.

Dutch Flat *Enquirer*, Aug. 1st: James Rich and his partners have discovered a ledge of decomposed quartz, near the old Texas diggings, which prospects very rich in gold. A short time since they rigged up a hydraulic and washed out some of the decomposed rock, and after the water was turned off they picked up some $13 or $14 in specimens. They had about 25 ft. pressure, and the rock was so soft as to wash out quite readily. They intend sinking on the ledge, and think the prospects exceedingly flattering.

The Gold Run correspondent writes: Mining is prosecuted here with much vigor, and from all appearances, with success. All the claims that have been working since early winter are still piping away lively, and among those that have but recently commenced, Judd, Huyck and Brogan are now "running the cobble lively," and from all indications will make a long season of it yet. The Home Ticket Co. have suspended operations for this season.

Sierra County.

Downieville *Messenger*, Aug. 1st: The Johnson quartz ledge, near the Docile, is proving richer than the most sanguine anticipated. Last week a body of excellent ore was struck, some of the specimens taken out containing as much as six ozs. gold.

The Gold Lake correspondent writes: At the Illinois claims Messrs. Watson & Co. are taking out a good quality of pay dirt. They get some excellent looking dust, good sized pieces. They are running two shifts of hands, and work both day and night. Further west and on the same range there are several parties engaged in placer mining. The upper claims in the Woodchuck Ravine, are paying well, and will as long as water lasts. The owners of the ground below these, however, have so far failed in finding the channel which the boys above are working on, and have suspended operations. This ravine is supposed to be an outlet of a large main channel which runs through the hill at some point above.

Siskiyou County.

Yreka *Union*, Aug. 1st: On Tuesday last, during the thunder shower, the water in the Big Ditch again burst its boundaries. The break occurred in Scar Face Gulch, in Shasta Valley.

A joint stock company has been formed for the purpose of bringing, by means of a ditch, a more ample supply of water to the rich placers in the vicinity of Muggінsville and Oro Fino.

A rich quartz ledge has been discovered in the Penning claim near Muggінsville. Where it cropped out on the surface the ledge was but a few inches thick, but it widens out as it goes down, and at a depth of eight ft.—as far as has been sunk on it yet—it is 16 in. thick. Mr. Luttrell says it fairly sparkles and glistens with gold. The quartz is soft and easily pulverized, but is incased in very hard rock. The parties who discovered it have taken from it over $100 by means of a small hand mortar and pestle.

Hon. J. K. Luttrell showed us yesterday several slugs taken from the claim of Mooers & Grooms, a short distance north from Muggінsville. These slugs range in weight from $1.75 up to $36.50, and are very handsome specimens. This is one of the best claims now in the county. They washed up over 40 ounces one day this week.

Tuolumne County.

Sonora *Democrat*, Aug 1st: The last crushing of 12 tons of ore from the Green claim, below Uniontown, paid $500.

The iron for the pipe to convey water to Chinese Camp, has arrived at that place.

James Arthur and two other men, have struck a rich quartz claim on Graveyard Hill, west of Jamestown. We saw some fine specimens of pure gold from it a few days ago.

COLORADO.

Georgetown *Miner*, July 16th: Work on the Baker Co's smelting furnace is progressing favorably....J. W. McFarlaud has recently discovered a very fine sulphuret lode on Democrat Mountain....The erection of the Brown Co's mill building was commenced last week, at Brownville, and will be pushed to an early completion....Messrs. Rigsby and Huddleston are raising some very fine ore from the Wm. Penn lode, on Democrat Mountain....Thomas Munsell, has recently discovered a very fine fissure vein on Alpine Mountain, which he proposes to develop thoroughly....A large number of new discoveries have been made the present season on Sherman and Brown mountains, and prospecting is still prosecuted with vigor....A Mr. Knowles, of Chicago, is experimenting with a new smelting furnace at the old Lyon works, below Black Hawk....Packard, Moor & Scott have discovered a very large fissure vein, about half a mile south of the Astor, having the same general characteristics as the latter....From the 21st day of May to the 8th day of July, 1868, inclusive, the German Reduction Works of Huependen have shipped 7,844.97 ozs. of silver bullion, coin value $7,448.62. On the 6th and 8th of July, they shipped 1,859.01 ozs., coin value $1,803.43.....We have valuable deposits of fire clay in this immediate vicinity. John Cree has a vein on Republican Mountain full seven feet wide, and Charles Wentworth has a fine vein on Columbia Mountain. The latter has been and is now being used by Prof. Yonley, for muffles and scorifying dishes, and he pronounces it fully equal to that from Golden City.

A pocket of very rich sulphurets and glance was struck in the Astor lode on Saturday last, by Messrs. Cooper, Fisher & Adams. They raised a half a ton on that day that is estimated to yield about $7,000. Snyder & Peters have a quantity of ore raised from the Snow-drift lode, on Sherman Mountain....John T. Herrick, of the smelting works, shipped on Friday last 222 pounds troy of silver bullion, coin value, $3,596.40. The works are running steadily and with good results....The shaft on the Ashley Franklin lode reached a depth of 60 feet on Saturday last, developing a large vein of fine grained galena, having the appearance of being very rich.

Central City *Register*, July 16th: Intelligence from all quarters of the mining country is of the most encouraging character. Several new and promising silver lodes have recently been discovered on Left Hand Creek, near Gold Hill. Gillespie & Stewart showed us some fine looking surface ore from the Gray Eagle lode, which they recently discovered there....The gold shipments this week will be larger than any previous one....A new discovery on Bobtail Hill is attracting a good deal of attention just now....Ira Austin is sluicing in Gold Dirt Gulch with very fair success....Cushman & Walcott have rented the Lexington mill, and have commenced running it.

From Ward district we learn that the Ni Wot mill continues to crush second quality ore, and pays the expenses of the company while sinking through the cap in their mine. The Edge Hill Co. is running on surface ore from various lodes, and is yielding a good profit. The ore run has averaged over $100 per cord. The Cushman mill is also running with like good results.

DACOTAH.

Sweetwater *Mines*, July 18th: Zabriskie & Co. commence crushing ore in their new arastra in Hermit Gulch, to-day.

Fairfield, Marshall & Co., after crushing six tons of ore from the Gladiator, made a clean up the other day, and got an average of $38.50 per ton. The rock was not closely selected, but if it had been, the yield would have been much greater.

Fish & Co. are down with a shaft eight feet by six, and 28 feet deep, and pushing the shaft to the water, the ore improving every foot as they go down. The vein is five feet wide at the bottom of the shaft, and they have about 25 tons of excellent ore out, without having to put in a single blast as yet. They have found the vein on Churchman & Co's ground, 350 feet south of discovery, and have commenced sinking on as rich ore as Fish & Co. The vein is named the Mastodon, and Churchman & Co. named their location on it Mastodon No. 2. The ledge was not found in any organized mining district, therefore they have formed a new one, making this vein the center, and named it the Oregon Mining district, and bounded it on the north by Pacific district. The vein lies about six miles from Oregon Springs. The ore is chloride and black sulphuret, and is located for seven miles northward, and a mile or a mile and a half southward, and runs in very nearly a straight line. Next north of Fish & Co., Geo. W. B. Dixon, J. P. Thiriott, and L. P. Crandall have located 600 feet by name of the St. Lawrence Co., calling their location Mastodon No. 3, and have commenced sinking upon it. A scientific gentleman, educated in mining at Freiburg, pronounces the ore equal in richness to any he has ever seen.

Messrs. Harrison & Co. have struck another very promising vein about ¼ mile eastward from the Mastodon, and are sinking upon it. These veins lie in the primary granite, which never pinch out nor cap over, and run on the course of all true fissure veins, varying a few degrees from north and south.

The editor gives the following account of a visit to Hamilton City, California district: We found men at work upon Gallagher & Co's claim, and after securing some fine specimens, and witnessing a clean-up of the upper placer claims in the gulch, seeing about 2½ ounces taken out of Holbrook & Co's claim, and about two ounces taken from Comstock & Co's, we started back.

The Helena *Post* of July 11th, says that an old German Gulch miner, who has just returned from a trip to the Sweetwater mines, reports that after prospecting for placer mines during a period of ten months on the tributaries of the Sweetwater, he could not find any ground which yielded more than a color to the pan. He went to the new diggings last fall, by way of Bridger, and found about 100 men scattered through the country. A few good quartz ledges constituted the only gold mines of any consequence in the region he visited, and he affirms that German Gulch alone is more valuable than the whole of the Sweetwater country.

Denver *News*, July 22d: The Sweetwater mines shipped $20,000 gold dust, in one week, recently.

[There must be a mistake somewhere, as

it would seem impossible for such a barren country as the *Post* describes, to ship $20,000 in one week.—Eds. Press.]

MONTANA.

Helena *Post*, July 24th: Claim No. 23, above discovery, at Wilson's Gulch, is paying on an average $30 per day to the hand, and the prospects in neighboring claims indicate ground that is equally rich. The pay gravel is very wide and deep.

The Poor Man's lode, in the Flint Creek country, is proving full as rich as the most sanguine could expect. Some selected ore from this lead was yesterday manipulated by Molitor Bros., and an elegant button of silver extracted from it, showing that ore of that description contained 5,007 ozs. or $6,509.10 to the ton. Two pounds of rock were pulverized, but only one half of the powder was worked, the other half being destined for New York, to be tested there. Fifteen tons of similar selected ore are now on their way here from Flint Creek, ten tons of which will be sent to New York and the other five tons to Berlin, for the purpose of being worked. This ore is taken from a depth of about 20 feet on the lead referred to, and is among the richest ever seen in the Territory.

A short time since one of the richest quartz leads ever found in Montana, was discovered by Wesley Jones & Co., at the head of deep Gulch, near Beartown. This ledge is between two and three feet in width, and the quartz, which is a deep yellow color, shows an abundance of free gold. From one pound of rock recently crushed, $4.00 was obtained, and several other large prospects have been procured. It is well known that Deep Gulch is one of the richest regions in Montana, and it is believed that the ledge just discovered, is the one from which the celebrated mines referred to derived their supply of gold. The mine has been christened the "Radical," and it is proposed to put up an arastra or small mill upon it.

Basin Gulch, near the head of the Boulder, has created considerable excitement recently, a stampede to it having been in operation during the whole of last week. Its distance from here is 30 miles. Claims have been staked for a distance of seven miles, and between 50 or 60 men are now at work opening their ground, and obtain prospects of from three to ten cents to the pan. It is from four to nine feet to bedrock, with from two to four feet stripping. The pay streak, wherever its width has been tested, is from 30 to 100 feet wide. Williams & Co., on last Wednesday, cleaned up $188, the result of a three days' run with six men working. The next claim below them is paying still better. The gold is of a coarse nature. Galena Gulch, between Big and Little Boulder, is now occupied by about 300 men, and is proving good. Two men recently cleaned up $82 for a three days' run. Prospects of from ten to twenty cents to the pan are being obtained.

Letters from Cable state that a rich strike had been made on the Cable lead. The top rock, upon which work was first commenced, had to a certain extent failed, and a new shaft has recently been sunk to a depth of over 100 feet. In this new shaft the ledge has now been struck. It is 30 feet in width, and has an abundance of free gold....The William Nowlan mill was to start yesterday on Cable rock. General Ewing's mill arrived at Cable on Saturday last, and will be erected on the Georgetown side of the Cable Mountain. This mill will be in operation in two months and will work ore from the Keystone lode.

Turnley's mill will soon start up on quartz from the Parke lode, and Ricker's mill will start on Monday....New diggings have been struck near Beartown, on tributaries of Modesty, Prairie and Richardson gulches....El Dorado Bar is dull. Ben. Toole's claim is cleaning up $200 per day with three hands working during the entire 24 hours. His clear profit is $180 per day....Professor Swallow has exchanged the ground formerly owned by the company he represents, on the Ballarat lode at Highland, for other ground on the same lode, on which a tunnel is being run, paying $15,000 "hoot." The Professor keeps between 30 and 40 men constantly at work preparing for his mill.

NEVADA.

Humboldt.

Winnemucca *Argent*, Aug. 1st: From the Golconda mine they shipped this week 389 pounds of bullion. Value, $4,688.

Fall & Co. shipped this week, per Wells, Fargo & Co.'s Express, 2,800 ounces of fine bullion.

The Montezuma Co. shipped this week bullion to the amount of $30,000.

Holt's mill is employed in making experiments on ore from the "Pride of the Mountain"—a ledge in Winnemucca Mountain. He finds the ore rich enough to pay well, and gets satisfactory results in a small prospecting pan, and is trying to apply the same process in the large pans.

J. M. White has brought down another batch of 134 pounds of bullion taken from Golconda mine. It looks beautiful and is worth $1 per ounce. The mine at no time has looked so well. A richer grade of ore has been struck this week, and has every miners' sign of permanency.

Seven hundred feet of the Little Giant ledge at Battle Mountain has been sold to J. H. Atchison, for $$12,500, with the understanding that he is to erect a quartz mill upon it as soon as possible. The greater part of the mill passed here on the 20th inst., and will be at work inside of 60 days. Other parties are at work in the district on ledges of equally promising appearance.

Unionville *Register*, July 25th: The prospects of the Arizona Consolidated S. M. Co. are flattering.

The working of 22 tons of ore, at Golconda mill, Fairview, from the Little Giant mine, yielded 400 pounds of crude bullion, amounting to $5,900.

The Golconda mine is now surpassing itself. The vein is still increasing in size and richness. The mill is shipping several hundred pounds of bullion weekly.

Kyle & Co. are now delivering twelve tuns of ore daily to the mills in town from the Arizona mine, for Fall and Temple.

General McCullock has resumed work on the North Sheba. This mine is looking well.

Bonnifield and Perkins are making negotiations with heavy capitalists for money to carry on the Sheba mine.

Reese River.

Austin *Reveille*, July 24th: A fine vein of ore has been struck in the incline of the Metacom mine.

July 25th: The Manhattan mill was closed yesterday, cause, unknown. The quality of the ore which is produced in the district of White Pine, as well as the condition under which it occurs, are causes of wonder even to the experienced. Thus far several of the claims have been as productive as rich gold placers. We were furnished with data by Mr. J. D. Emersley, who arrived in this city from the district yesterday, which are well calculated to excite wonder. The owners of the Eberhardt South broke ground in their claim just 60 days ago, and the estimated value of the ore extracted during that period is about $150,000. Mr. Emersley examined their various lots of ore, and learned their value as ascertained by assays of the pulp at the Centenary mill, in the Newark district, where transported for reduction. His examination resulted in the following estimates: five tons of the choicest specimens of horn silver, which were carefully selected from the whole mass, will yield at the rate of $5,000 per ton; 110 tons of what is termed first class, a number of tons of which have been worked at the mill, yield pulp assays ranging from $1,000 to $1,400 per ton; 60 tons of second class, lots of which yielded in the mill at the rate of $300 per ton; and 80 tons of third class, the pulp assays of which range from $80 to $100 per ton. The entire expense of taking out the above lots of ore is $1,800. The claim is opened to the depth of 16 feet, and at the bottom the ore appears to be of as good a quality as that found above. The Keystone is a parallel claim, and has already produced ore enough to give each of the owners from $20,000 to $25,000. Several other claims produce good ore, but of a quality greatly inferior to that taken from the two specified.

July 28th: Mr. J. D. Emersley, a resident of White Pine, writes from those mines as follows: The Keystone is now yielding a better quality of ore than the Eberhardt, and bids fair to give an equally liberal return to the parties to whom it belongs as the other has done. No other deposit of equal value to these two has been discovered in the district, though valuable mines are being located almost daily. On the southeastern face of Treasure Hill, about a mile from its summit, a very promising ledge, known as the Best Chance, was located a few weeks ago by the Lake Bros. Another named the Metropolitan was found recently about half a mile below Sherman's new town site. On Treasure Hill there are scores of holes being dug; ore is found almost anywhere that an opening of a few ft. deep is made. Still all of those will not prove mines; hundreds of locations are being made which will never become of any permanent value. Like most new districts, White Pine is being overdone in everything.

July 30th: The El Dorado South, at Silver Bend, is developing wonderful deposits of rich chloride ore along the entire line of the claim. At a point recently uncovered near the southern boundary, the deposit is apparently very extensive, and the ore of a higher grade even than that discovered to the north.

The work on the shaft of the Plymouth Co., which was temporarily stopped, is to be resumed immediately.

Yesterday, 12 bars of bullion, varying from .863 to .993 fine, and valued at $16,216.66, were brought into this city consigned to W. S. Gage & Co. The handsome bars were produced at the mill of the Centenary Co., in the district of Newark, from ore obtained from the Eberhardt South in White Pine district. The lot was shipped yesterday by John A. Paxton & Co.

July 31st: John A. Paxton & Co. received yesterday two bars of bullion from the Knickerbocker mill, near Ione; three bars from the Combination Co. at Silver Bend; and two bars from the Twin River Co. at Ophir Cañon.

Silver Bend *Reporter*, July 29th: Mr. Beaumont, lately from Palmetto district, recently showed us some very fine specimens of ore from two of the most prominent ledges of the district—the Silver Champion and the Kentucky. There are some 2,000 tons of first and second class ore now on the dumps of the Champion mine, carefully selected, and about equal parts of each. They have reached a depth on the Kentucky ledge of 40 feet. They have upon the dumps of this mine about 300 tons of very rich ore. The company is progressing finely with its mill building.

Virginia *Enterprise*, July 29th:—As yet neither the Empire nor Imperial Co. have found milling ore in their respective drifts from 900-foot level of the Imperial-Empire shaft. The two main drifts are progressing slowly in hard, barren, white quartz, and the air is more close, hot and stifling than ever, so much so as to be suffocating and almost unendurable.

The big flume at Gold Hill, which carries the water of Crown Point Ravine through the town, is to be extended a further distance of some 400 feet.

July 31st:—On Saturday last the Imperial mine dispatched to San Francisco $10,000 in bullion. The bullion receipts of the Savage Co., on July account, up to the 27th, aggregate $168,000; and of the Crown Point Co., $57,000.

The new reel-clutch of the Imperial-Empire works has been put in place and the works started up again at 5 o'clock evening before last.

The yield of the Gould & Curry, Savage and Hale & Norcross, from the time of their being opened to April 1, 1868, was a little over $17,000,000. Besides this we may say that the Ophir, Mexican and Central in the same time yielded $8,000,000; the California $400,000, and the Chollar-Potosi $5,000,000, and we have over $40,000,000—saying nothing about the mines of Gold Hill and other mines on the Comstock range.

Aug. 1st: Wells, Fargo & Co. shipped from their offices in this city and Gold Hill, during the past week, 9,469 pounds of assayed bullion, valued at $257,009.35.

A new body of ore was struck yesterday in the lower level of the Hale & Norcross mine. The ore is of a very fine quality, though so hard that it is necessary to blast it out, and occurs at the lowest point in the mine, and some 25 feet lower than the lowest workings in the Savage. The extent of the deposit has not yet been ascertained, though a drift has been cut into it a distance of over three feet. The ore appears to be a new body that comes in from the east, lapping upon the lead from that side.

The Overman Co. have just now indications of a very promising character in the drift which is being run to the northward from the bottom of their engine shaft.

We understand that a deposit, the extent of which has not yet been determined, of very rich ore, was yesterday struck in the lower level of the Yellow Jacket mine. The exact character of the ore found, we have not yet learned, but it is said to be exceedingly good.

Gold Hill *News*, August 3d: The body of ore recently struck in the Yellow Jacket mine is 20 feet in width.

There was shipped from Wells, Fargo & Co's Gold Hill office, this morning, 17 sacks of bullion, weighing 1,506 pounds, and of the assayed value of $36,137.47.

Trespass, August 1st: The Crown Point is now sinking for the 1,000 foot level—100 feet deeper than the mine has yet been prospected. In order to do this, it becomes necessary to enlarge the reels sufficiently to hold the additional cable; and for this purpose the works will be shut down for one or two days next week.

We understand that the old hoisting works of the Yellow Jacket Co. will soon be started up, after an idleness of a month.

Dispatched from Wells, Fargo & Co's office in Virginia, this morning, 14 bars of bullion weighing 872 pounds, and worth $18,207.

NEW MEXICO.

A correspondent of the Santa Fe *Gazette*, of July 11th, writing from Pinos Altos, says: I am one of ten men who have organized the Gila River Ditch and Water Co. Our company have commenced the construction of a ditch to take the water from said river where it issues out of the Mongollon chain of mountains, and carry it to Grant City, to be used in running quartz mills, for manufacturing, etc. We have reason to believe that inside of five years a vast amount of quartz will be taken from the mountains near Grant City, and crushed by the water power we have secured.

I have just seen some quartz taken from the Langston lead at Pinos Altos, that is about half gold, and was informed that a large amount of just such quartz was taken out of a pocket in said lead, a few days ago. The Arizona Co. are working said lead with great success.

Denver *News*, July 15th: There were on the counter of the First National Bank this morning, five gold bars; aggregate weight 80.39 ounces, and worth at least $17 per oz. in coin. The finest was .899, and would coin not less than $17.50. It all came from the Cimarron.

OREGON.

Jacksonville *Sentinel*, August 1st: M. H. Chapin exhibited to us this week a nugget of gold taken from his claim on Pleasant Creek, which weighed 10¼ ounces. This is the second piece he has taken out this season. The first found weighed a dollar more than this piece.

The tunnel which Messrs. Fox, Patty & Co. had run into the hill channel at Waldo, in Josephine County, crushed the timbering and caved in lately. Where it broke, the ground was over 100 feet deep, and the opening at the top is about 50 feet across.

Artificial Granite.—A method of manufacturing artificial granite has just been patented by Mr. P. M. Parsons, of Blackheath, England, well known by his system of converting cast-iron guns into rifled ordnance. The materials of this artificial granite are disintegrated natural granite mixed with clay, together with pounded glass, lava, or iron slags. The disintegrated granite is obtained by submitting fragments of natural granite to a strong heat, about 700 deg. or 800 deg. Cent., in an oven, by which, after a sufficient time, it becomes dissolved into a granitic sand, the constituent parts of which, quartz or felspar, possess great powers of adhesion. One part of this granitic sand is then mixed with about an equal quantity of pounded glass, or the constituents of glass, or lava, or iron slag, to which is added from twenty to thirty parts of refractory clay, or from thirty to fifty parts of ordinary clay. This mixture is thoroughly kneaded together with a sufficient quantity of water to make it of a pasty consistency. It is then molded to any form required, and submitted to a degree of heat sufficient to vitrify the mass for about thirty-six hours, which converts it into a hard and durable substance resembling granite. The artificial granite thus produced may be molded into any forms required to render it suitable for various kinds of buildings, fortifications, docks, and other engineering structures, and particularly for all kinds of pavements, for which its great hardness renders it particularly suitable. When very large blocks are required, it is preferable to make them hollow, and after they have been baked or burnt, they may be filled with concrete, rubble, etc., to make them solid. Any kind of furnace in which the requisite heat can be generated will answer for dissolving the granite and baking or vitrifying the blocks or bricks; but Mr. Parsons finds that Hoffman's annular furnaces perform this operation satisfactorily. — *Mechanics' Magazine.*

Gold Mining in Russia.—Gold prospecting in Siberia is carried on after a somewhat singular plan. The mines are an object of much attention on the part of the Russian Government, and while it is opened free for any one to search for gold deposits in any part of the territory, the successful discoverer is obliged to report to the nearest government official, who apportions him a space of about four square miles, on condition that all the precious metal he obtains is to be carried to a government depot, where it is coined into money, the proceeds, less 15 per cent. for expenses, being then paid to the discoverer.

Mining and Scientific Press.

W. B. EWER,.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

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WRITERS should be cautious about addressing correspondence relating to the business or interests of a firm to an individual member thereof, whose absence at the time might cause delay.

Our Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

Dr. L. G. Yates is our duly authorized traveling agent. July 6, 1867.

Mr. A. B. Butler is a duly authorized traveling agent and correspondent for this paper. July 15, 1867.

Resident Agents.

CENTRAL CITY, C. T.—Messrs. Richards & Crane, of the City Book Store, Main street, will act as our agents.

GEORGETOWN, C. T.—John A. Lafferty, Postmaster, is our agent in this place.

DENVER CITY, C. T.—Messrs. Woolworth & Moffat, are our agents for this place.

CHEYENNE, D. T.—Mr. Robert Beers is our authorized agent for this place.

OMAHA, N. T.—Messrs. Barkalow & Brothers, are our agents for this place.

Notice.—The partnership of C. W. M. Smith, W. B. Ewer and A. T. Dewey, has been dissolved this day by mutual consent. The Patent Agency and Newspaper Business of the MINING AND SCIENTIFIC PRESS will be continued under the firm-name of Dewey & Co., by A. T. Dewey and W. B Ewer.

San Francisco, August 1, 1868.

San Francisco:

Saturday Morning, Aug. 8, 1868.

REMOVAL.—Our friends will please bear in mind that the MINING AND SCIENTIFIC PRESS Office, Patent Agency and Job Printing Office has been removed from 505 to 414 Clay street, about half a block below Sansome.

Notices to Correspondents.

REFRIGERATOR.—Carbonic acid can be manufactured and stored in the liquid form for future use. The most convenient mode of obtaining it in this condition, is to employ two lengthy cylindrical vessels of iron, of great strength, with spherical ends. One is employed for the generation of the gas, the other is used as a receiver, in which the gas is accumulated. The generator being charged with a mixture of 2¾ pounds of bicarbonate soda and 6¼ pounds of warm water, a leaden or brass tube containing 1⅓ pounds of oil of vitriol is now cautionsly introduced, and the head of the apparatus, furnished with a stop-cock of peculiar construction, is screwed down and rendered tight by a leaden washer. The generator is then reversed, in order to mix the materials, by which means carbonic acid becomes liberated; the gas so set free will accumulate in the upper part of the vessel, where, by its own pressure, it becomes liquefied; a small tube is screwed on the side of each vessel, by means of which they can be connected. The second or receiving vessel is kept cool by being immersed in melting ice; a connection between the generator being made, and the stop-cocks opened, the liquefied gas distils over; after which the stop-cocks are closed and the vessels separated, whilst a fresh charge is being introduced into the generator. The operation may be repeated until the desired quantity of the liquefied gas has been obtained. Communicating with the stop-cock of the receiver is a tube which passes nearly down to the bottom of the vessel, and terminates in an open extremity, so that as soon as the stop-cock is opened, a jet of the liquid acid, by the pressure of its own vapor, is forced up this vertical tube, and escapes from the receiver through a fine nozzle, which is screwed to the stop-cock. The issuing liquid commences immediately to evaporate with great rapidity, in consequence of which so large an amount of latent heat is carried off in the escaping gas, that a portion of the liquid is converted into a solid form having the appearance of snow, if the operation is carried on with special precaution. When it is intended to manufacture liquid carbonic acid on a large scale, carbonate of lime, in place of soda, would be employed on account of the great difference in the cost of one of the main materials used.

R. L.—Very dilute sulphate of soda will precipitate barytes and strontium when in solution, but not lime, as the latter is soluble in about 420 times its own weight of water.

Causes Affecting the Values of Labor.

The extraordinary differences in the price paid for labor in different countries, is often spoken of, even by the most intelligent, as a matter of much surprise. The wonder that such a condition of things should exist is all the greater, from the fact that there should, at the same time, be found so small a comparative difference in the price of food—generally considered the basis of labor—in the different countries.

Previous to the labor disturbances growing out of the late war, the price of ordinary labor in the United States was about $1 per day, in gold. The same class of labor, however, could be commanded in England for seventy-five cents, while in the East Indies and China, labor could be had for from twelve down to even six cents per day.

A given quantity of flour or rice—the first the chief article of diet of the American and European, and the latter of the Asiatic—contains about an equal amount of those substances, which, when taken into the stomach produce impulses of physical force. True, the American or European may consume a greater quantity of food than the Asiatic. Still the general truth must be admitted; and that admission renders the fact an interesting subject for investigation, to the end that we may determine the cause of the remarkable difference in wages between the two extremes, while the use of food is so nearly the same and its cost so nearly equal that the country which pays the highest rate of wages, can afford to send flour to the one which pays the lowest rates.

In the ordinary consideration of this subject a most important condition is often omitted, viz.:—the possession of a greater degree of directing intelligence on the part of the one than the other.

If, in estimating the price of wages, we take into consideration an element of power which exists; but in a form quite distinct from mere physical force, viz.:—a knowledge of the most effective modes of rendering physical force most advantageously available, we may find a valid reason for a large portion, if not the entire difference between the prices of labor in the extreme localities named. By combining the comparatively feeble power of man with a general knowledge and practical application of the principles of mechanics, the result of a day's labor may be augmented, in many cases a hundred fold or more. Hence it follows, as a necessary consequence, that in estimating the comparative average value of the labor of people, this important combination of knowledge with power must be fully taken into consideration.

In the labors of agriculture an inhabitant of China, or one of the less civilized islands of the Pacific ocean, will exert the same amount of physical power in the use of his rude implements, as the laborer in the United States or England does with his steam plow, planter or thresher. The same amount of food—of carbon and hydrogen, burned within the lungs—produces a corresponding amount of physical force, whether taken into the stomach of the American or an Asiatic; but the combination of the more effective power of the horse or the steam engine, exerted through properly devised machinery, and simply directed by the human being, stamps a many fold value upon the labor of the one over that of the other; and enables the farmer who pays a dollar a day for labor, to feed at a profit, many thousand miles away, those who are laboring for ten cents a day to raise the same articles of food. This fact is still more apparent when applied to manufactures, and the contrast may be extended through every branch of human industry.

One word further with regard to the price of wages. They are high or low, not according as the sums paid are large or small, but according to what those sums will purchase. If a mechanic receives $2 a day and pays $10 for a barrel of flour, and at the same rate for all other things, he is no better off than when he received $1 for his labor, and bought flour for $5 per barrel, and other things at the same reduced value.

It is among the chief duties of journalists to advocate the interests of the laboring classes; for it is honest and intelligent labor, more than all other things combined, that gives material prosperity to a country. It is the hands that toil at the loom, that direct the various engines of industry, build, delve and are honorably hardened by contact with some implement of labor, that uphold the fabric of communities, and make nations prosperous, wealthy and powerful. But to be successful and useful, above the laborers of half civilized countries, the workman must be skillful and intelligent, and capable of fulfilling the true aim of the physical power existing in the human being. Such intelligence renders powerless the tyranny of capital—for the labor of coöperating masses is but another form of capital, which may always be brought to bear when legitimate capital is unmindful of its obligations. When society fails in its duty in this respect, educated labor—labor, capable of directing itself,—is abundantly able to protect itself.

But we are being led away from our original purpose, which was merely to invite the attention of our readers to a consideration of the true causes affecting the values of labor. We have shown that labor is valuable only in proportion to the intelligence which directs it, and we have hinted at the manner in which intelligent labor may always protect itself, in an orderly way, and by means which never need interfere with any one. "Strikes" should be left to those who lack the intelligence to give the proper value to their labor, and when those who engage in them interfere with the public peace and quiet, all good men should frown upon them. Coöperation is open to intelligence everywhere; and in a country, where education is free to all, he who neglects his advantage must expect to suffer the consequences. The man who has neglected the opportunities to cultivate those capacities which will enable him to join in coöperative associations, ought not to expect a preference in the price of his labor over those who, never having enjoyed those opportunities, willingly rate their labor cheap in consequence.

PERMANENCY OF MINING.—Perhaps the best evidence of the permenancy of the mines of the precious metals may be found in the fact that, after more than three or four centuries of operation, more or less active, the silver mines of Mexico remain as her greatest industrial resource, the basis of her commerce, and the best security she can offer for the cost of any improvement she may contemplate.

THE peat speculation, which excited such a furor in the Eastern and Middle States some year or two ago, seems to have turned out rather disastrously. The Hartford *Times*, speaking of the result in Connecticut, says: "Losses have occurred in this and Tolland counties to the extent of about $150,000 in this speculation, and large sums in other parts of the State."

SILK WORM EGGS.—Messrs. Hoag & Haynie, of Sacramento, the great silk-worm men, expect to sell from 800 to 1,000 ounces of eggs this season, most of which will go to Europe, where the California eggs are in great demand on account of the healthy worms which they produce. These eggs are worth about $5 per ounce.

THE English prejudice against anthracite has become so completely broken down that orders have been issued that henceforth none but anthracite coal is to be used in the British navy.

The first regular issue of the 3d volume of the DAILY FAIR PRESS, will be made in the Pavilion on Monday evening next.

The Mechanics' Institute Fair.

The opening of the Exhibition having been advertised for to-day (Saturday) we have made a visit to the grounds before going to press, and an inspiring sight we saw: the tasteful brown redwood structure with its towers and extensive wings rising up now in their full finished proportions, the broad front entrance thrown open, numerous buggies standing in waiting, the ticket offices in full blast; but not till getting a glimpse of the inside was the true spirit of the scene presented to us. The effect of the great semi-circular arches supporting the roof, and of the timbering overhead in general, was enriched by the beautiful natural color of the redwood, and the architecture throughout, though simple and economical in execution, is artistic, and will strike every visitor agreeably. There was the din of all the arts and trades combined, echoing through the entire space within; there was hammering and sawing, and shoving and hauling, and rushing about, and calling, by the hundreds of exhibitors who were enthusiastically at work with all the help that could be crowded into their respective spaces, in putting to rights the cases and masterpieces to be exhibited. It seemed as if all the industry of California were then and there concentrated—and so it was, indeed, representatively, for it is well understood that the live people of the State are taking an unusual interest in this year's exhibition. From the galleries we heard the echo and tramp of some 500 school boys, who were marshaled and marched around the circuit by their instructors to witness, very appropriately, and be benefited by, the inspirations of such an occasion and place. There they saw, springing up under their wondering eyes, a little industrial world, as if by magic. We cannot particularize as to the fountains and other innumerable splendid things we caught sight of—but the reader can well imagine it all as it will be by about Wednesday or Thursday next, with crowds of joyous men and women wandering through the mazes to strains of music. The Art Gallery will be quite a feature.

The cool breezes of the Bay City, in connection with this Exhibition of the advancement of our arts and trades, and of the new things which individual enterprise has furnished in the way of supplying the demands of a Commonwealth, which we believe is to have a great history, will bring into our midst, this week, a very large number of the substantial and influential citizens of the interior, as well as from Nevada and from Oregon, who will profit by each others society, and be made wide awake to the significance of the times. How can we overlook the great events between which this exhibition rises into an historic position, as an index and centre—the establishment of railroad and steam communications between the "old and the new," and the making available for our advantage, of the labor and resources of China?

It is expected that the pavilion will be visited daily by from three to ten thousand people. The opening takes place, as promised, this day at 11, A. M., notwithstanding some strong efforts which were made to defer it to enable the exhibitors to arrange things more satisfactorily for the first day. All who can should be present to hear the address of Newton Booth.

NOTHING NEW.—It is claimed that evidences have been discovered that the *magnetic telegraph* was a thing conceived of more than two thousand years ago. In an ancient Italian work, published in 1636, it appears that a Dutch savant had written of the possibility of establishing secret correspondence between Italy and Holland by the aid of needles. [magnetic?] Madame du Deffend, in a letter written and published about the same time, also alludes to the same subject.

The Pacific Saw Manufacturing Co.

Prominent among the new industrial enterprises which have recently been established in this city, stands that whose title we have placed at the head of this article. The company was organized about two years since, on a very limited scale, and started their works at Nos. 113 and 115 Pine street; it consisted of the present proprietors, C. P. Sheffield, N. W. Spaulding and James Pattison. It has gradually grown from small beginnings to a large and most important industrial enterprise, and has now stepped the importation of saws to this coast to the value of from $40,000 to $50,000 per year.

On the 1st of July last the company moved their works from Pine street to their new brick building, 17 and 19 Fremont street, where they now employ about thirty-five hands. The new works occupy three floors, covering the entire area of a full-sized water lot. The machinery of these works is driven by an engine of 30-horse-power. Every class of saw—circular, mulay, cross-cut, carpenters' saws of every kind, butchers' saws, etc.,—is made at this establishment, which is the only one of the kind on the Pacific Coast.

California has led off in the use of large circular saws for the manufacture of lumber—the demand for their employment growing out of the extraordinary size of the timber which is found on this coast. As the size of the saws increased, a corresponding care was required in the process of their manufacture, in order to secure a perfectly true run and rapid feed. The Pacific Saw Manufacturing Company, in order to secure this important desideratum, have procured the most complete and perfect class of machinery for every department of the work of manufacture. A recent visit to this establishment and careful examination of all its parts, quite surprised us at the extent, character and perfection of the machinery employed; and we have thought that a brief description of the same would not be without interest to our readers.

The raw material is imported direct from England for this manufactory, and from the well known house of Jesop & Sons, Sheffield. It consists of the best cast steel that can be produced. That for circular saws is received cut into disks, corresponding to the size of the saws to be made. The material for all the other large saws comes cut in the rough, to the shape of the saw which is to be produced. When received, the plate is extremely uneven, warped, and as unlike the beautiful polished plate of a finished saw as such a thing could be well made. The first process is to cut the teeth, which is done by means of dies, indexes, presses, etc., worked by steam. The plate is then "flattened" to an approximation to a perfect plane. This is accompanied by hammering the same on an anvil block, and by the most skillful workmen. The plate is then placed in a large oven or furnace, eight by twelve feet in dimensions. Great care is taken in this heating process, both in the character of the fuel employed, and in the manner of the application of the heat. The plate is removed from this oven and plunged into a bath of prepared liquid, the precise composition of which is one of the secrets of the art.

The art of tempering is a most important one, and requires much experience and care. The rule at this establishment, in the case of cross-cut saws, which are branded "extra," is to require them to be bent into circles of two feet in diameter. If they break in this operation or fail to fly back to their original shape, they are either condemned entirely, or marked as inferior saws, and sold at corresponding prices. It is especially important, in tempering, to have a uniform state of the atmosphere, as the exposure of the plate to too great a degree of cold in passing it to and from the bath, seriously affects the temper. The uniformity of the climate of this city is peculiarly favorable for this part of the work. After tempering, the saw is again straightened to remove any twists which it may have received in that process. It is now nothing but a black, rough, unburnished plate. The first process of "finishing" is to grind this surface by passing it between large revolving stones, which rapidly remove the rougbness and give it a partial polish. The grinding of mulay and crosscut saws is a very simple process; but the machinery required for holding a large circular saw to the stone, and securing a true and even grinding of its surface, is quite a complicated affair: yet it handles one of the largest size circular saw plates with all the ease of a child handling a toy. Its work is extremely rapid and perfect. From the grinders the plates pass to be "blocked,"—that is, hammered lightly on a perfectly smooth anvil block, and in such a manner as not to draw or otherwise injure the temper or face of the steel. This process is exceedingly tedious, and one which requires the greatest patience and care, and the most perfect eye; as upon the accurate performance of this work depends the future running of the saw.

From the blocks the plate is again sent back to the furnace to be "stiffened." It is now ready for the polishing room. Here the plates go through various operations of polishing by emery wheels, aided by machinery suited to the different classes of saws which are being operated on.

Saws are made by this company with both fixed and movable teeth. The process of the manufacture of the movable teeth, although carried on at this establishment, is a separate business from that which we have described, and belongs exclusively to Mr. Spaulding, one of the company, and a mechanic who has done more than any other man for the improvement of circular saws. His movable teeth have, in fact, almost revolutionized the business, adding largely to the capacity for doing work and greatly decreasing the cost of the same. Mr. S. was the first to make any improvement in the movable teeth, by which it has become possible to bring them into general use. We shall give a more particular description of this branch of the business in our next issue.

FIVE HUNDRED AND SEVEN MECHANICAL MOVEMENTS: By Henry T. Brown, editor of the *American Artisan*, N. Y.

We have just received this little work which contains, in a neat form, the largest and most comprehensive list of mechanical movements ever published, and it will prove invaluable to mechanics and inventors for reference.

In selecting the movements, both American and foreign works have been consulted, and the best selected, but not more than one-fourth of them are entirely new, never having appeared before in any work. The engravings and description are arranged on opposite pages, which, with a copious index, makes the book the most convenient for reference we have ever seen.

It should have a wide circulation, and if consulted, will save many an inventor weeks or months of labor in perfecting some invention, which, when finished, be discovers to be an old and common device.

WANTED—At this office, the postoffice address of Enraght Massey, late of Gold Hill, Nevada.

NOTICE.—Persons interested in locating Mineral Lands in California or Nevada, will do well to observe the advertisement of N. Wescoatt, S. & M. E., in another column.

CO-OPERATIVE UNION STORE.—This is becoming one of the most useful Institutions in the city, and the Mechanic and Laboring Man fully appreciate it. They are now enabled to buy their Groceries and Provisions 20 per cent. cheaper than ever before, and the very best articles in the market. The store is located at 113 Sutter street, Lick House Block, San Francisco. 6v16-aim

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BY MAIL.—The *Mining and Scientific Press* will be sent by mail to any part of the civilized world. In case of removal subscribers have only to inform us of the post office address of their old and new location, and the paper will be sen accordingly.

As if by magic comes repose,
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This harmless Remedy stops all pain instantly, and leaves no stain. The tongue cannot mention any physical pain that this Paint will not remove in five minutes. Whether a frightful Burn, a griping Colic, or a simple Mosquito bite, the result proves an entire relief from distress at any spot or place where applied. It is perfectly adapted not only for all pain, but also permanently cures the worst Ulcers, Piles, Cancers, or breaking out on any part of the body, and all internal complaints, by an outward application to the parts affected.

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3v17-4w

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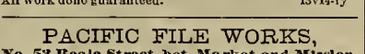
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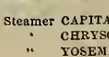
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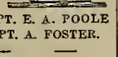
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19v16-3m H. C. BENNETT, Secretary.

Silver Mining in West Virginia.

Two or three years ago considerable was said about some discoveries of silver in Jackson County, West Virginia, by parties engaged in boring for oil. These discoveries, we believe, were pretty generally discredited at the time, and we had supposed that the idea of mining for silver in such connection was soon abandoned. It appears, however, that such was not the case; but that considerable energy and much capital is now being expended, with the view of developing these supposed silver mines. The "mines" appear to be spread over quite a large space, judging from the fact that the "indications" have been struck by so many different parties, as given below. A local journal gives the following brief history of these workings:

Shortly after the war, two young gentlemen by the name of Cunningham, while boring for oil, struck a substance of a bright argentiferous appearance, which at first attracted but little attention. They, however, saved some of the material and sent it to Philadelphia to be analyzed by competent chemists, who pronounced it to be silver of a very fine quality. This created some considerable excitement, which induced other companies to prospect for the metal. In less than one year fifteen companies had sunk holes to the depth which the metal was represented to be, and fourteen out of the fifteen obtained the precious metal. Thus encouraged, two companies, the Pittsburg Mining and Developing Company and the Pomeroy Company, undertook the task of sinking shafts six by twelve feet to the depth of 390 feet. These companies have patiently labored for nearly a year in driving these shafts. The Pomeroy Company has descended to the depth of 185 feet, the Pittsburg Company to the depth of 335 feet. The Pittsburg Company has still 55 feet to go before it reaches the gaol for which it is laboring. If the latter Company has no bad luck it will be down to the region of the precious metal by the 1st of June. The following are the depths at which the silver has been struck by different companies: The Pittsburg Exploring and Mining Company at the depth of 372 feet and 342 feet; the Mason County Silver Company at the depth of 384 feet; the Mason City Company at the depth of 260 feet; the first Pomcry Company at the depth of 366 feet; also, at another place, at the depth of 374 feet; the second Pomeroy Company at the depth of 386 feet; Ohlinger, Milton Company, at the depth of 382 feet; the Philadelphia Company at the depth of 396 feet. The President of the Pittsburg Company has sent some specimens of the metallic silver brought out of their bore hole to Mr. Otto Wuth, analytical and consulting chemist in Pittsburg, and he found them to be—

Silver	80.89
Lead	9.58
Copper	8.68
Gold	0.40
Iron	0.81
	100.00

Mr. Grimm, President of the first Pomeroy Company, sent also some specimens to be analyzed by Dr. Wayne, a practical chemist and mineralogist, who found them to be—

Silver	94.00
Copper	6.00

The other companies have had their specimens analyzed, and none came under 80 per cent. of pure silver.

"CHECKING" RAILWAY CONDUCTORS.—The Street Railway Company of Chicago furnishes each conductor, on each trip, with a long card, upon which are printed, commencing with a star, which is to be punched first, the numbers 6, 12, 18, 24, and so on up to the amount of 50 cash faree, so that the number next to the last hole punched will represent the amount received on any one trip for full cash fares. These the conductor is required to carry, and as often as a fare is paid in money to punch it in the presence of the passenger. For fractional and short fares he is required to make a mark on the back of the card, and when the card is given to the conductor he is held responsible for its return, being charged with its full amount in case of its loss. By this means it is believed that his honesty will be insured.

A COAT of gum-opal varnish applied to the soles of boots and shoes, and repeated as it dries, until the pores are filled and the surface shines like polished mahogany, will make the soles water-proof, and also cause them to last three times as long as ordinary soles.

PHILOSOPHY OF STREET WATERING.—Mr. J. W. Ceepor, has recently patented an improved system of watering streets, which is being tried in the parish of St. Marylebone and elsewhere, and promises to be successful. He introduces into the ordinary carts, when charged with water, a mixture, in suitable proportions, of fused chloride of calcium and chloride of sodium (common table salt). These salts, as is well known, are highly deliquescent, especially the chloride of calcium. When such a solution is applied to the roads, the retention of moisture by the chlorides serves to keep them in a damp condition for a much longer period than when ordinary water is used.

By the present system of *deluging*, three applications daily are scarcely sufficient in warm dry weather to prevent the dust from blowing, whereas *one* application of Mr. Coopor's composition at intervals of two or three days will, it is said, effectually accomplish this object, and at a much less cost.

The dust in the large rooms of warehouses and similar buildings might, doubtless, be effectively controlled by adding a little of these salts to the water used.

SCULLS VERSUS OARS.—During a late discussion on the slip of screw-propellers, at the Institution of Naval Architects, London, the chairman, Vice-Admiral Belcher, incidentally said he wanted to know how it was that a Japanese vessel of 65 or 70 tons, pulling against his 36-ton gig, with 18-foot oars, beat them out-and-out with two sculls? There were four men at each scull, the sculls being in the direction of the axis of the vessel. The sculls drove the Japanese vessel ahead faster than his gig could follow. The distance the scull passed through the water could not have been above six or eight inches, and it was only the bend of the oar which gave diagonal jerk to the vessel.

The question was not there answered, but it is evident the Japanese scullers had an advantage in an almost continuous application of their power. In Venice, the gondola is often driven by a single scull, held, not behind, but on the side of the vessel, and worked to the right and left, without being raised from the water. Thus, the expert gondolier propels and steers his craft with the same paddle.

CEMENT FOR ATTACHING GLASS AND BRASS.—A resin soap is first formed by boiling three parts of resin and one part of caustic soda in five parts of water, and then mixing this with half its weight of plaster of paris. This cement is said to be impervious to petroleum, only superficially affected by water, to adhere very strongly, and to be a bad conductor of heat.

UTILIZATION OF BRAN.—A process has recently been patented in England by which the bran of flour after being separated is ground into an impalpable powder, and then again mixed with the flour. In this way all the nutritious ingredients are preserved, while the fineness of the flour is not affected.

PREMATURE DECAY OF THE TEETH.—A London surgeon thinks he has discovered the cause of the premature decay of the permanent teeth. It is for want of the stimulus of pressure on the socket owing to the universal practice of rendering the food soft by the abomination of cooking. His remedy is the common use of navy biscuit or "hard tack," instead of bread.

THE COTTON CROP.—It is estimated that the cotton crop for the current year will reach 2,200,000 bales.

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KAOLIN I NEVADA.—The Reese River *Reveille* is informed that an extensive bed of Kaolin in porcelain clay, has been discovered at Mount Tenabo, in the district of Cortez. It was recently discovered in the workings of the Garrison mine, and the specimens exhibited have been pronounced very fine by competent judges. The peculiar clay results from the decomposition of feldspar; the change consisting in a removal of the alkali, potash, with part of the silica, and the addition of water. It occurs in extensive beds in many granite regions, and is the material used for making chinaware.

THE Chinese were the first to attempt to measure time. According to their historical books, the Emperor Fohi, who lived 2,952 years before the commencement of our era, stndied the celestial bodies with great attention. The idea of dividing the day into equal parts by means of the sun's dinrnal motion is very ancient, and the first contrivance of the kind probably consisted in sticking a spear into a plane surface.

THE GOLD MINES OF NEW HAMPSHIRE. We see it stated that Professor Hitchcock proposes to visit the gold mines of New Hampshire the coming fall, and give the pnblic the resnlt of his investigations. Anything which that gentleman may publish on the snbject will no doubt be reliable, and will be read with much interest.

A LUSUS NATURÆ.—A perfectly formed ear of corn, which had grown in the tassel of the plant, was exhibited at a late meeting of the Farmers' Club of the Mechanics' Institute, N. Y. From the complete manner in which the kernels covered the cob the curiosity was considered a most interesting example of a *lusus naturæ*.

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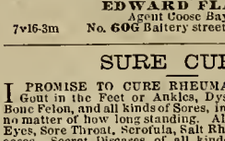
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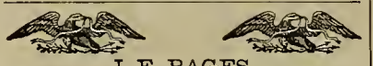
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Any stock upon which said assessment shall remain unpaid on the fourth day of September, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-first day of September, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

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Rattlesnake Gold and Silver Mining Company, Brown's Valley, Yuba County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventh day of August, 1868, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, 313 California street, up stairs, San Francisco.

Any stock upon which said assessment shall remain unpaid on the tenth (10th) day of September, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-eighth day of September, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary.
Office, 313 California street, San Francisco, Cal. au8

Office of the Silver Sprout Mining Company,
San Francisco, August 4th, 1868.

STOCKHOLDER'S NOTICE.—In accordance with a resolution adopted at a meeting of the Board of Trustees of the Silver Sprout Mining Company, held this day, a special meeting of the Company is hereby called, the same to be held at the office of said Company, No. 408 California street, San Francisco, California, on Monday, the thirty-first day of August, 1868, at one o'clock P. M., to take into consideration and decide upon the proposition to increase the capital stock of said company from two hundred and fifty thousand dollars, divided into two hundred and fifty shares of one thousand dollars par value each, the present capital stock of the Company, to three million five hundred thousand dollars, to be divided into five thousand shares of seven hundred dollars par value each.

NATHANIEL PAGE,
A. WINGARD,
E. B. MOTT, Jr. } Trustees.
au8-1m

New Mining Advertisements.

Adriatic Gold and Silver Mining Company, Flowery District, Storey County, Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the twentieth day of May, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificates.	No. Shares.	Amount.
M J Newmark	507	30	$30 00
Daniel Meyer	98	50	50 00
Daniel Meyer	251	35	35 00
N Luning	114	10	10 00
Thomas S Russell	190	10	10 00
Estate of Henry Dreschfeld	302	176	176 00
Estate of Henry Dreschfeld	324	25	25 00
Estate of Henry Dreschfeld	393	5	5 00
Estate of Henry Dreschfeld	427	61	61 00
Estate of Henry Dreschfeld	466	50	50 00
Edward Cohn	491	25	25 00
J L Schroeder	428	75	75 00
L Rosenbaum	503	222	222 00
H Schmidt	492	5	5 00
H Schmidt	494	5	5 00
H Schmidt	494	10	10 00
J J Robbins	489	10	10 00
J J Robbins	490	10	10 00
J J Robbins	506	5	5 00
J S Burgess	513	50	50 00
M Waterman	509	30	30 00
K W Kind	440	5	5 00
R W Kind	441	10	10 00
R W Kind	479	10	10 00
Jas Adelsdorfer	224	15	15 00
B Gattel	352	10	10 00
B Gattel	359	10	10 00
B Gattel	360	10	10 00
B Gattel	533	10	10 00

And in accordance with law, and an order of the Board of Trustees, made on the twentieth day of May, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the sales-room of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on the sixteenth day of July, 1868, at the hour of 11 o'clock A. M. of said day, for cash, in U. S. gold coin, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

PAUL NEUMANN, Secretary.
Office, No. 411 California street. jy4

POSTPONEMENT.—The above sale is hereby postponed until Friday, the thirty-first day of July, 1868, at the same hour and place. By order of the Board of Trustees.

PAUL NEUMANN, Secretary.
San Francisco, July 14, 1868. jy18

POSTPONEMENT.—The above sale is hereby postponed until Monday, the seventeenth day of August, 1868, at the same hour and place. By order of the Board of Trustees.same

PAUL NEUMAN, Secretary.
San Francisco, July 31, 1868. au1

PATENT OFFICE REPORTS, from 1843 to 1847, MECHANICAL, are wanted for duplicate copies at this office. Parties having them for sale will please state price, and address DEWEY & CO., Mining and Scientific Press office, San Francisco.

Bear River Mining Company, Nevada County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the tenth day of June, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. shares.	Amount.
A G Pier	1	50	$50 00
Wesley Henderson	2	50	50 00
W J Stringer	3	50	50 00
H McCormick	not issued	662	662 00
C Jones	not issued	662	662 00

And in accordance with law, and an order of the Board of Trustees, made on the tenth day of June, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, on the seventeenth day of August, 1868, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. BUFFINGTON, Secretary.
Office, Room 37 New Merchants' Exchange, California street, San Francisco, au1

Chipleonea Mining Company--District of Ures, Sonora, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the ninth day of July, 1868, an assessment of five ($5) dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirteenth day of August, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirty-first day of August, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary.
Office, 318 California street, up-stairs, San Francisco. jy11

Office of the Folsom Street and Fort Point Railroad and Tunnel Company, southwest corner of Montgomery and California streets, Room No. 16, San Francisco.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-eighth day of July, 1868, an assessment of five dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to Caleb T. Fay, Esq., at the office of the Company.

Any shares of stock upon which said assessment shall remain unpaid on the twenty-ninth day of August, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fourteenth day of September, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

au1 JOS. M WOOD, Secretary.

Hope Gravel Mining Company. Location of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of July, 1868, an assessment (No. 25) of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at his office, No. 533 Kearny street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on Thursday, the tenth day of September, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fifth (5th) day of October, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary.
Office, No. 533 Kearny street, corner of Sacramento, San Francisco, California. Office hours from 12 to 2 P. M. au1

Gold Hill Tunneling Gold and Silver Mining Company.—Location: Gold Hill Mining District, County of Storey, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of July, 1868, an assessment (No. 10) of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, R. Wegener, 414 California street, San Francisco, Cal., or to the Superintendent, H. Huguet, Gold Hill, Nevada.

Any stock upon which said assessment shall remain unpaid on the twenty first day of August, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the ninth day of September, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. WEGENER, Secretary.
Office, 414 California street, San Francisco. jy25

Caution!

Whitman Gold and Silver Mining Company.

Location of Works: Indian Springs District, Lyon County, Nevada.

Notice is hereby given, that the following named shares in the capital stock of the Whitman Gold and Silver Mining Company, designated by the number of certificate of each parcel of said stock, were sold as by law provided, at public auction, on the fifteenth day of July, 1868, for delinquent assessment thereon, and will not be transferred by said Company:

No. Certificate	101	No. Shares	5
" "	245	" "	30
" "	259	" "	15
" "	263	" "	15
" "	269	" "	20

T. W. COLBURN, Secretary,
Whitman O. & S. M. Co.
San Francisco, July 16, 1868. jy18

THE MECHANICS' INSTITUTE

OF THE

CITY OF SAN FRANCISCO,

Organized March 29, 1855.

Building of the Association, No. 27 Post street.

Library Hours from 8 A.M. to 10 P.M.

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MANAGERS OF THE FAIR.—The list of Officers above enumerated constitute the Board of Managers of the Sixth Industrial Fair of 1868,

Machinery.

VARNEY'S
PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has everrequired repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable pawder, and the metal amalgamated.

Setters made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setters for themselves, at the **PACIFIC FOUNDRY,**

1v1 San Francisco.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE
—AT—
WM. P. BLAKE,
Corner First and Mission streets, or Box 2,077
3v13f SAN FRANCISCO.

Notice to Miners,
Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG,
8v13-1y Stove Store, No. 125 Clay street, below Davis.



REMOVAL.

E. O. HUNT'S

Manufactory of
Windmills, Horse-Powers and Pumps,

Has been removed from the old stand on Second street, to

114 and 116 Spear st.,

Next above Stuart and south of Mission st., San Francisco.

Hunt's Patent Wind-Mills, Tread Horse-Powers, Sweep Horse-Powers, (for one or four horses), Sawing Machines, Pumps of all kinds for shallow or deep wells, including Hunt's Submerged Pump, Hunt's Globe Pump, and Hunt's Single and Double-Acting Pump.

Pumping Machines and general Machinery kept constantly on hand and built to order.

Also, Water Tanks of all sizes.

Having put up large new buildings specially for my business, with greatly increased facilities in the way of room and steam power, I shall be able to build everything in my line at greatly reduced rates.

All desirous of procuring water for irrigating or other purposes, are invited to examine my articles before purchasing elsewhere.

23v16 **E. O. HUNT, Proprietor.**

OIL STOVES!

MORRILL'S

Petroleum and Universal Oil Stoves

Have proved themselves a superior substitute for Wood and Coal stoves, in that they work quicker, are neater, bake and broil better, are MORE ECONOMICAL generally. They are portable, can be used in any room, with or without chimney, as they emit no smoke, soot or ashes. There are nine different sizes, designed for barbers, dentists, and other mechanical purposes—as well as for cooking. They are perfectly safe.

I now offer a reward of **$100** for every Petroleum Stove exploded by Naphtha delivered at my store, 18 Geary street, where they are for sale by

M. B. BULLARD,

Proprietor of Petroleum Stove for California, and Agent for Universal Oil Stove for Pacific Coast.

N. B.—Petroleum Stoves burn Naphtha converted into a gas. Universal Oil Stoves burn Naphtha, Benzine, or Coal Oil, with non-illuminating flame and light on a wick as easy as a lamp. 21v16 3m

OILS! OILS! OILS!

MACHINE OILS OF ALL GRADES,

Pure Lard Oil,

SPERM OIL, PARAFFINE OIL, Etc., Etc.

EXCELSIOR MACHINE OIL,

The Best in use.

A. C. DIETZ & CO., Sole Agents

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22v16-3m

Fire-Brick and Fire-Tile.

THE UNDERSIGNED KEEPS ON HAND A GENERAL assortment of Fire-Brick, Fire-Clay, Brick Dust, and Tiles of different sizes. LIME, PLASTER AND CEMENT. Corner of Market and First streets, San Francisco. Branch Store, Sixth street, Sacramento. Millmen and Gas Companies supplied at short notice.

7v16 6m **H. T. HOLMES.**

Fire, Hose and Machine Belting.

THE SUBSCRIBER CONTINUES TO MANUFACTURE Oak Tanned Leather Fire Hose, warranted superior to Eastern Hose, manufactured at the Sixth Street Tannery, San Francisco.

21v16tf JOHN J. FULTON.

GLASGOW
Iron and Metal Importing Company,

Nos. 25 and 27 Fremont street,

SAN FRANCISCO,

Keep constantly on hand a large stock of best Rar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings, which they offer to the trade on liberal terms.

21v16-3m **McCRINDLE, Manage.**

NELSON & DOBLE,

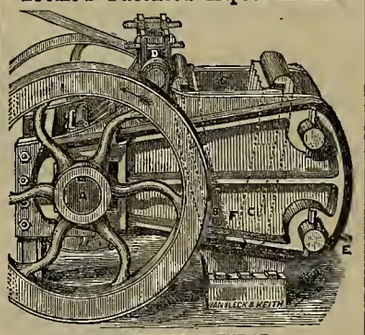
AGENTS FOR
Thomas Firth & Sons' Cast Steel, Files,

Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks,

Stone Cutters', Blacksmiths' and Horse-Shoers' Tools,
319 and 321 Pine Street,
Between Montgomery and Sansome, San Francisco.
10v14qr

Brodie's Patented Improvements



FOR THE TREATMENT OF
Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:

No. 1—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price..... **$600**

No. 2—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour..... **850**

No. 3—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour..... **1,200**

These Crushers have been erected at several mines in the State of Nevada, and others in Calaveras, Tuolumne and Mariposa counties, to whom applicants can be referred as being the most efficient, cheapest, and least weight compatible with strength and durability, of any Crusher yet erected.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

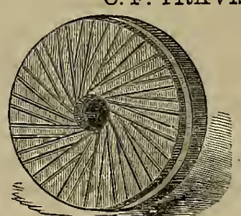
A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.

JAMES BRODIE, Fulton Foundry, or
CHARLES RADCLIFF,
Express Building, 402 Montgomery street,
12v18tf San Francisco.

C. F. TRAVIS,



Manufacturer of
FRENCH
BURR
Mill-Stones,
AND
PORTABLE
MILLS.

Agent for
Dufour & Co's
Celebrated
DUTCH ANCHOR BOLTING CLOTHS.

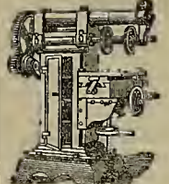
Mill Picks, Mill Picks Dressed, Mill-Stones Repaired and Rebuilt; Mill Stones Balanced with Fellenbaum's Patent Balance, of which I am sole Proprietor for California, Oregon, and Washington Territory. C. F. TRAVIS,
5v16tf 109 Mission street, San Francisco.

ROBERT BRAGG,



STEERING WHEELS

ON HAND AND MADE TO ORDER.
☞ **JOB WORK** done to order, at the shortest notice.
Main street, between Folsom and Harrison,
23v16-3m San Francisco.



Standard Milling Machine.



Pipe Vise, with or without Extra Jaw.

UNION VISE COMPANY,

OF BOSTON,

Make Vises of all sizes and kinds, for Machinists, Blacksmiths, and all other heavy mechanical work. Wood-workers' and other Vices, with Covered Screw, for general mechanical work. Standard Milling Machines, very simple and easily adjusted. Address, Boston, Mass. 23v16-1y

Belting and Lacing.

AN ENTIRELY NEW AND SUPERIOR ARTICLE OF exclusively mechanical preparation, made to order on short notice, and for sale by H. ROYER, at 435 Brannan street, between Third and Fourth. Refers to Risen Bros., Pioneer Mills; Martin Steen, National Mills; Horace Davis, Golden Gate Mills; also, N. W. Spaulding, Saw Manufacturer. 6v16-3m



THE FLORENCE

RECEIVED THE HIGHEST PREMIUMS

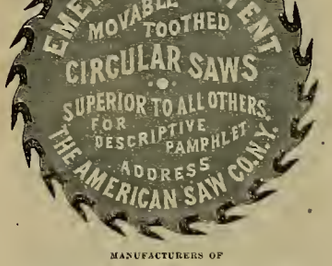
At all the most important Fairs held in the United States in the year 1867. Gold Medals at the American Institute Fair, New York; Mechanics' Association Fair, Lowell; Maryland Institute Fair, Baltimore. Highest Premium at the New York State Fair, Buffalo, and at the Orcat New England Fair, Providence. At the Fairs held on the Pacific Coast, this machine has taken

Every First Premium

Awarded on Family Sewing Machines in the LAST FIVE YEARS. If there is a Florence Machine within one thousand miles of San Francisco, that is not giving entire satisfaction, if I am informed of it, it will be attended to without express charge or expense of any kind to the owner.

SAMUEL HILL, Agent.
11v16-4m 111 Montgomery street, San Francisco.

American Saw Company.



MANUFACTURERS OF
EMERSON'S PATENT
Movable-Tooth and Perforated Circular Saws,
Perforated Mulay, Mill and Cross-Cut Saws, with Adjustable Sockets.

SAW-GUMMERS, SWAGES, CANT DOGS,
Etc., have established an office for the sale of the above articles, at

No. 606 Front street, San Francisco.

☞ Descriptive Pamphlets will be forwarded to any one giving us their address. 5v17tf



STOVES
AND
TIN WARE,

WOODEN WARE
WILLOW
WARE,
BIRD CAGES,
Etc., Etc.



Lock's Patent Self-Lighting Gas-Burners, by

GEO. H. CHICK,

At 834 Market street, San Francisco.
24v16-3m

BELDUKE & CO.,

OF CONCORD, N. H.,

Long employed at the celebrated firm of Downing & Son, have opened a manufactory of



Concord Wagons,

Of all descriptions, at No. 820 and 822 Folsom street, between Fourth and Fifth streets, San Francisco.

Orders received for Buggies, Expresses, and Light and Heavy Thorough-brace. Carriage Springs made to order.
18v15-1am-6m

To Inventors.

The undersigned is now prepared to assist inventors or others by manufacturing Models for the Patent Office, large working Machines or Devices of every description, in Metal or Wood, in the most workmanlike manner and at reasonable rates. Also, Patterns for Iron and Brass Work and all kinds of Machinery.

Having had ten years practical experience in this city, parties can be assured all work entrusted to me will be executed in a prompt and satisfactory manner. Power will be granted to parties wishing to test or experiment with machinery.

☞ Full files of the Patent Office Reports for the use of patrons. **J. H. CULVER,**
3v17-3m **20** Fremont street, over Phœnix Iron Works.

SUBSCRIBERS who do not receive the *Mining and Scientific Press* in due time, are requested to inform the publishers.

The Early History of the New Almaden Quicksilver Mines.

The following early account of the New Almaden quicksilver mine, condensed from an article in *Silliman's Journal* for September, 1848, may not be uninteresting at this time:

The mine of New Almaden is situated a few miles from the coast, about midway between San Francisco and Monterey, and in one of the ridges of Sierra Azul Mountain. The mouth of the mine is a few yards down from the summit of the highest hill that has yet been found to contain quicksilver, and is about 1,200 feet above the neighboring plain, and not much more above the ocean.

This mine, known to the aborigines from time immemorial as a "cave of red earth," from which they obtained paint for their bodies, was first discovered to contain quicksilver about four years since, during experiments made by some Mexicans to smelt the ore for the purpose of obtaining gold, which they supposed it to contain. About two years ago it fell into the hands of Barron, Forbes & Co., who sent on hands, tools and funds to commence working it. Unfortunately the vessel fell into the hands of the United States forces, and was confiscated; the operations of the mine were of course delayed till the arrival of Mr. Forbes himself a few months since, with miners, tools, and whatever things he was able to procure in Mexico, to enable him to make a fair experiment on the capabilities of the mine. The great trouble was to obtain suitable apparatus for extracting the ore. At length *four potash kettles were found*, which were set in a furnace of adobes, with condensers of mason-work immediately adjacent—a wretched apparatus indeed for managing so subtle a thing as mercurial vapor. The mode of working was to fill each of these pots in the morning with 400 pounds of the ores of average quality, broken in lumps of the size of apples, put on the covers and *lute* them with clay. The fires were then kept up till near night, when the furnaces were allowed to cool gradually. The next morning the condensers were opened, and the metal dipped up; which usually amounted to from 200 to 300 pounds for the four pots. This was a much less percentage than the assay indicated, and it was obvious that a large portion of metal was lost. The upper parts of the pots and condensers were found to be generally coated with a crust of sulphuret of mercury. Mr. Forbes wished to devise some way of extracting the metal without mixing lime with the ore in the roasting, but was unsuccessful. At length a kiln of lime, which occurs in the immediate vicinity, was burned, and mingled with this, the ores yielding a vastly larger percentage of metal. In the last three weeks about 10,000 pounds of metal have been extracted with the same apparatus, being a yield of over 50 per cent. Whether the ores were picked or not the writer cannot say, but presume they were. Between 15,000 and 20,000 pounds have been extracted in about two months, only six miners having been employed in digging the ore, and the hands of the establishment, all told, miners, furnace-men, wood choppers, etc., etc., numbering only a score. The mine is probably yielding a net profit of $100,000 a year with its present crude apparatus. With suitable furnaces and iron cylinders or retorts, the mine would easily yield $1,000,000 and upwards. Mr. Forbes sails to Europe shortly for the apparatus necessary. The bed has as yet been followed but a few hundred feet, but the ores grow more and more rich and abundant.

The other mines opened in the vicinity have not yet been sufficiently developed to decide upon their character. Ore has been found in fifteen or twenty other places within a few miles around, and within a few days in hills that do not seem to belong to the same range with that which contains the mine already described.

Some ores of silver have also been recently discovered in this region; but I have had no opportunity of procuring any genuine specimens as yet, and whether silver mines worth the working will be found is at least problematical.

There are traces of coal in the country, but nothing of value has yet been discovered.

Gold has been found recently on the Sacramento, near Sutter's Fort. It occurs in small masses in the sands of a new millrace, and is said to promise well.

OLD FOLKS.—Oliver Wendell Holmes says that a man over ninety is a great comfort to his elderly neighbors. He is a picket-guard on the extreme outposts, and young folks of sixty or seventy feel that the enemy must get by him before they can come near their encampment.

A Paint for Stoves and Ovens.—Blacklead is a great institution for polishing stoves, and probably few but cooks and housemaids would care to see its use diminished. It certainly has its recommendations, but it can hardly be said to be ornamental, while it entails an immense amount of labor. In Germany, where a stove and sort of kitchen range is continually to be found in the common sitting-room of a respectable family, the unsightliness seems to have been felt, and a suggestion has been made to do away with the black-lead and paint the stoves and ovens. Oil paint, of course, cannot be employed, but waterglass (silicate of potash) colored with pigment to match the paint of the apartment is the material recommended. Before this is applied the iron must be thoroughly cleaned from grease, and all rust spots must be rubbed off with a scratch brush. Two or three coats of the paint may then be put on and allowed to dry, after which the fire may lighted without fear of injury to the color, which may, indeed, be heated to redness. Grease or milk spilt over the paint has no effect upon it, and it may be kept clean by washing with soap and water. Dutch-ovens and like utensils may also be coated with the same materials, and the labor spent in polishing be saved. A good coating of the paint, it is said, will last a year or two.

Alcohol as it Affects the Temperature of the Blood.—Experiments made by Drs. Ringer and Rickards on the affects of alcohol on man and animals, go to show that the temperature of the body falls nearly as fast after the use of alcohol in doses sufficient to produce intoxication, as after death itself. The facility with which drunkards freeze to death, is explained by this fact. Dr. Jolly declares, that an increasing tendency toward mental disease has been generated by the increasing consumption of spirits. Official reports show, that the abuse of alcohol accounts for one-fifth of the insanity in France.

Timber Planting is going on largely in Iowa, and a similar movement begins to be apparent in the prairie States generally. The woods preferred are ash, maple, walnut, chestnut and some evergreens. We must come to this in California. It pays well.

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Note.—We would specially call the attention of Mill owners and Engineers to our superior PARAFFINE OIL, which we manufacture from the California Petroleum. This oil will not gum. Machinery thoroughly cleaned and lubricated with it will not heat, and after remaining at rest, can be started without cleaning off.

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Watchman's Time Detector.

This Watch-Clock was introduced to the public in almost every section of the United States and Canada about five years ago, and it has proved itself to be the best invention in the world for testing the faithfulness of Watchmen. Since its introduction, the Proprietor has improved on some parts, and corrected deficiencies and he has now

A Perfect Check upon the Watchman.

With other Clocks, a regular routine has to be followed, but with this a Watchman can be ordered to visit any particular place as often as required, without being compelled to go to places where it is not necessary to visit as often.

The instrument is complete in itself, portable, and as reliable as the best lever watch.

It is not so likely to become disarranged in its works as a good watch, because its parts are stronger. But when it needs cleaning, any common watchmaker can adjust it, its mechanism being simple. It requires no fixtures or wires communicating from room to room, as is the case with the ordinary Watch-Clocks; a small, inexpensive stationary key is alone required at each station. By its use places can be guarded that it would be impossible to guard with any other instrument, such as Railroad Tunnels, Bridges, Yards, Shops, etc. The instrument will in all cases be warranted perfect and satisfactory. Its price is invariably *Seventy-five Dollars*, cash on delivery, including as many keys as are requisite, not exceeding twelve.

This Watch-Clock is sold at a less price than any other in the market.

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☞This Detector is covered by two U. S. patents. Parties using or selling these instruments without authority from me will be dealt with according to law.

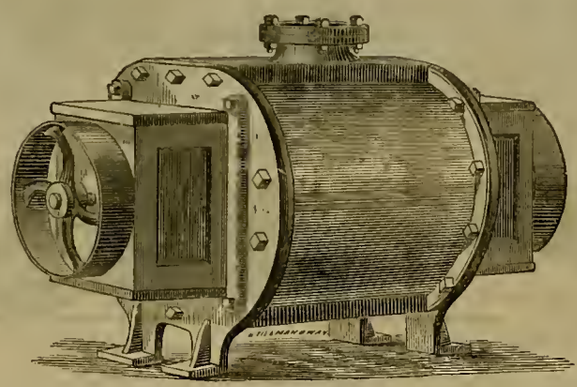
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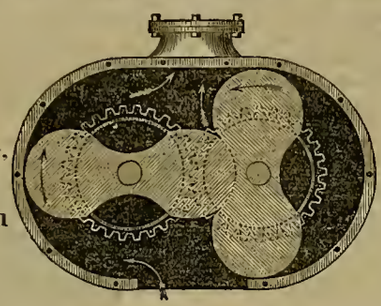
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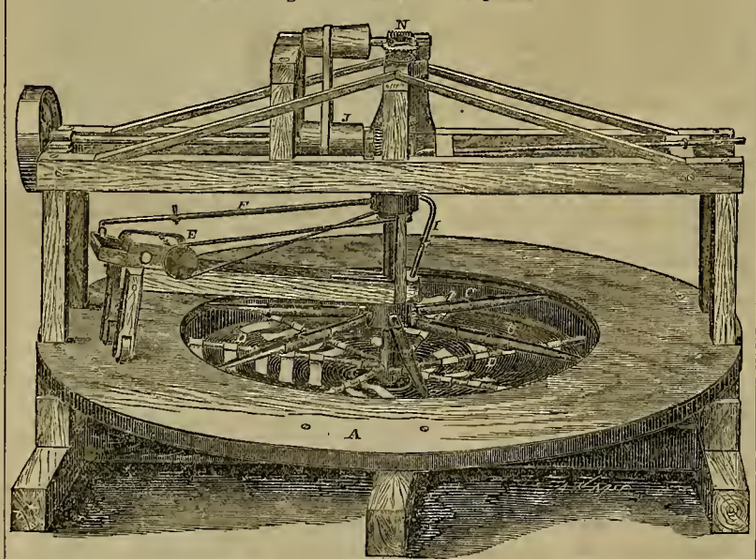
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For Saving Gold and Silver Sulphurets.



This invention, a perspective view of which is given above, consists in applying machinery to the ordinary buddle, and rendering the same automatic in action. It is calculated to do a large amount of work.

One Machine, costing about $1,400, is sufficient to work the Sands from 25 to 30 Stamps. But very little power is required.

It can be easily run by one man turning a crank. The principle on which it works is entirely dissimilar from any other machine now used on the Pacific Coast; although it is in almost universal use in Europe; but not so arranged there as to be automatic in action.

The illustration given herewith, was fully described in the Mining and Scientific Press of March 21, 1868.

One of these machines may be seen in constant operation at the Eureka (Watt's) mine in Grass Valley, where it is giving the fullest satisfaction, and is working all the tailings from thirty stamps. Another machine may be seen at the Banner mill, in Nevada, and a third below the Gould & Curry Company's mill, near Virginia City.

For further information, apply to Thomas N. Paine, Grass Valley, California.

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3d. It is the most durable, not being subject to rot after years of exposure to moisture and dampness.

4th. It is remarkable for its elasticity, rivaling, in this respect, the finest curled hair.

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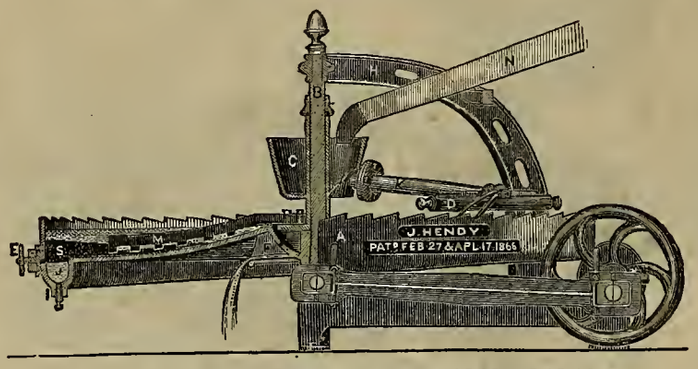
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THE MINING AND SCIENTIFIC PRESS, which commenced its seventeenth volume on the 4th, comes to us with a newly engraved head, and presenting otherwise its usual tasteful appearance. We take this occasion to say that the PRESS is one of the best papers of the kind in the United States, and every miner and mechanic in the State, as well as the business man, who would keep posted on our industrial resources, should have its name on its subscription books.—*Nevada Gazette.*

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LATEST IMPROVED PATENT SELF-DISCHARGING SULPHURETS CONCENTRATOR.



FOR GOLD AND SILVER ORES,

With Revolving Stirrers and Rotary Distributor.

Can be seen in operation at the Union Iron Works, corner of Mission and First streets. This machine is designed for saving finely divided Quicksilver, Amalgam and Gold from the sands, and for concentrating and saving the Sulphurets. Any person of ordinary experience with Quartz Mills can readily fit them up and run them.

Over 200 machines in successful operation in this State.

Those in want of Concentrators would do well to visit some of the quartz mills that have Hendy's Patent Concentrators in use, and satisfy themselves before purchasing other Concentrators of pretended merit. THEY ARE WARRANTED TO WORK SATISFACTORILY.

Directions for Operating Hendy's Concentrators:

The sulphurets are drawn off while the Concentrator is in motion, in the following manner:

FIRST—In setting up, set the pan, A, level by the inner rim, near its center.

SECOND—While in operation, keep the Pan, A, about half full of sulphurets. [See Figure 2, marked S.]

THIRD—Open the gate, E, sufficiently to discharge the sulphurets as they accumulate over the amount above mentioned.

FOURTH—The crank shaft to make 200 to 220 revolutions per minute.

References:

Reference is made to the following mills, which have HENDY'S CONCENTRATORS in use:

EMPIRE MILL. (8 Concentrators).....Grass Valley, Nevada County.
NORTH STAR M. & M. CO. (8 Concentrators).....Grass Valley, Nevada County.
NORRIDGEWOCK MILL. (2 Concentrators).....Grass Valley, Nevada County.
VALENTINE & CO., Commercial Mill (3 Concentrators).....Nevada County.
HUMBOLDT CANAL CO. (1 Concentrator).....Humboldt County, Nevada.
ROBINSON & McALLISTER M & M. CO. (3 Concentrators) Hunter's Valley, Mariposa County.
MIDAS MILL CO. (4 Concentrators).....Virginia, Moatana.
GOULD & CURRY G. & S. M. CO. (4 Concentrators).....Virginia City, Nevada.
VULTURE CO. (8 Concentrators).....Prescott, Arizona.
NOYES & CO'S MILL. (2 Concentrators).....Prescott, Arizona.
LUCY MINING CO. (3 Concentrators).....Owybee District, Idaho.
GUADALUPE & SACRAMENTO G. & S. M. CO.....Sinaloa, Mexico.
EL TASTE CO. (2 Concentrators).....Sonora, Mexico.
B. F. BROWN (1 Concentrator).....Melbourne, Australia.
JAMES HENTY & CO. (1 Concentrator).....Melbourne, Australia.

And in use in many other parts of this coast.

The following give additional proof of the increasing popularity of the machine:

SAN FRANCISCO, October 10th, 1867.

J. HENDY, ESQ.—*Dear Sir:*—To your request for an expression, in writing, of my opinion in regard to the merits of your Concentrator, I reply, that I consider it the best machine for saving quicksilver and amalgam, and for concentrating sulphurets, that I have ever used, or seen used. I may add, that I could give you no stronger proof of this than to order, as I did, six more of them, after a trial of one for several months. I shall take pleasure in showing the machine in operation to any one interested, who will call at the mill of the Empire Company, in Grass Valley. Yours,

S. W. LEE, Supt.

NORTH STAR MINE, Grass Valley, Feb. 26, 1868.

J. HENDY, ESQ—*Dear Sir:*— In answer to your request, I give my opinion in regard to the eight Concentrators we have at work. We have had one at work on blanket washings for the past three months, and it has proved highly satisfactory in saving sulphurets and amalgam, that in past years we have been losing. Of the other seven, six are taking the pulp from the batteries, and the remaining one concentrating from the six, which, when thus reconcentrated, yield 95 per cent. of pure sulphurets.

Respectfully, etc. W. H. RODDA, Supt.

An Additional call for Hendy's Concentrators

Has just been complied with, and the machines shipped to Grass Valley, Nevada Co., Cal., viz: One machine for the Empire Company, and two for the North Star. Hendy's Concentrators have been in constant use in these mills for more than eight months, and these orders completed a set of ten machines for each mill. The North Star Company have just added eight new stamps to their machinery.

Four Concentrators have been forwarded to the Vulture mine, in Arizona, which makes eight for that mill. The additional order for four machines was made after a thorough trial, which proved their superiority over all others. [See Mining and Scientific Press of Dec. 14th.]

CAUTION.

All of HENDY'S PATENT CONCENTRATORS are marked thus:

"J. HENDY, Patented April 17th, 1866, and May, 15th, 1868."

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JOSHUA HENDY, Patentee,
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A Journal of Useful Arts, Science, and Mining and Mechanical Progress.

BY DEWEY & CO., Patent Solicitors. SAN FRANCISCO, SATURDAY, AUGUST 15, 1868. VOLUME XVII. Number 7.

REMOVAL.—The office of the MINING AND SCIENTIFIC PRESS, with the Patent Agency and Job Printing Office, connected therewith, will be removed, to-day, from its present location, 505 Clay street, to 414, on the opposite side of the same street, and about half a block lower down—just below Sansome. The object of this removal is to secure larger and more commodious rooms, and a building in which our business can all be placed together. The necessity which has heretofore existed of carrying on our patent business more than a block away from our main business office, has been a source of great inconvenience and annoyance, not only to ourselves, but to our customers as well. Our friends will hereafter find us as above.

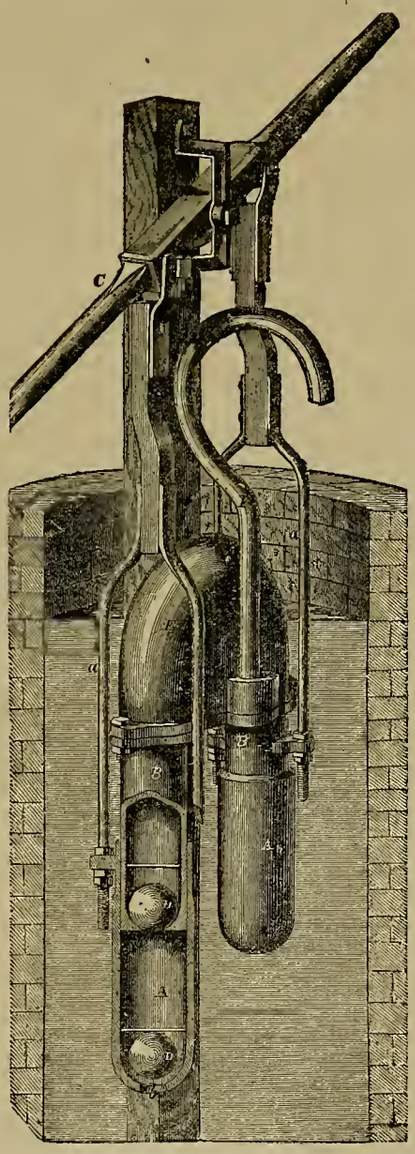
Coal on the Pacific Railroad.

There is coal in great abundance, at not inconvenient distances, all along the Pacific Railroad from Chicago to Salt Lake; from which place on, there has been nothing discovered, but some thin seams of lignite on the Truckee. At San Pete, 120 miles south of Salt Lake, there is bituminous coal, which is claimed to be better than any west of the Rocky Mountains. At Pahranagat, 300 miles southwest of Salt Lake, there is good coal, and it is believed that coal exists throughout the entire territory of Utah, in large quantities. On the line of the railroad, the principal coal mining district will probably be about 80 miles east of Salt Lake. Thence eastward, it is found cropping out in the cañons everywhere, in masses sometimes fifteen feet in thickness; and it is a matter so common as to attract but little attention. People do not even take the trouble to locate eligible exposures. At Green River, an important halting place on the way, they have found anthracite, which is heavy and will not burn without a flame, but when used in a blacksmith's forge it gives an intense heat. The article has been tried, and found to answer for all purposes required. There is no danger of the beds ever being exhausted, so that Green River will be another important source of coal, where something in the way of civilization must necessarily soon plant itself. At Cheyenne, coal mining excited a good deal of attention last fall. The mining district around Central City, Colorado, will probably be supplied from Golden City—lying at the entrance to the mountains, between the former place and Denver—which has the appearance already of a bustling little manufacturing town. Going eastward on the Pacific Railroad, the next important coal mining district is in Iowa, a little distance beyond the Missouri River. It is not improbable that the Government will some day institute an exploration of the coal fields of Colorado, Dakotah, Utah, Nevada and California.

MAKING MONEY.—People do not seem to be generally aware that it is those persons who save money that make it in the long run. The best thing therefore that can be said to a young man is to remind him of some reliable savings and loan institution. Such is the French Mutual Provident Savings and Loan Society, whose office is located at No. 533 Commercial street.

Gerrish Submerged, Double-Acting Force Pump.

We give herewith an illustration of a pump which is acknowledged by all mechanics and engineers, to be constructed on truly scientific principles. It commends itself for its extreme simplicity. There is



GERRISH'S SUBMERGED DOUBLE-ACTING FORCE PUMP.

nothing at all complicated about its construction, or anything which is at all likely to get out of order. This machine was patented by J. A. Morrill, October 29th, 1867.

It is made of iron. The valves, as shown in the engraving, are solid rubber balls, which, when used in the manner herein described, are as nearly indestructible as any thing well can be. The pump may also be used as a fire engine, it being so constructed that a hose can be readily attached. This feature is especially valuable in country and mountain towns which are not supplied with the usual fire apparatus. It must work well at any depth, and a child can operate it. Being submerged it cannot freeze, It has no suction-valve or packing to get out of order. The water, as will be seen in the engraving, is raised by two outside sliding cylinders, one balancing the other, and requiring no force beyond the mere lifting of the water.

In examining the illustration, A A represent the two outside cylinders of cast iron. These cylinders have each a valve fitting closely into a turned valve seat. These valves consist of solid rubber balls, which are kept from rising too high by the small rod shown in the engraving. D D represents the valves. The cylinders A A are moved upward and downward over the stationary inside cylinders B B, by means of the connecting rod a, attached to the brake C. The inside cylinders B B are firmly bolted on to the air chamber E, which is also of iron. The discharge pipe F, connects with the air chamber at the bottom as shown in the cut. This pump may be seen and examined at the Pavilion. It is manufactured and sold by Linforth, Kellogg & Rail, Nos. 3 and 5 Front street, near Market.

CHINESE FARMING.—A writer calls attention to a fact which illustrates the industry and ingenuity of the Chinese. All along the coast the steep shores and even mountain sides, are made tillable by a system of terraces. The front or slope of these terraces is about six feet in hight, and protected by sod. The level space thus obtained is devoted to raising vegetables and general products of the soil. Only one kind of seed or grain, however, is planted on the same space, and no two spaces produce the same vegetable or cereal. Thus the traveler has presented a mountain side fringed with diversified vegetation. Rows of peas, beans, turnips, carrots, vines, etc., rise in regular series until the summit is attained. The flat or bottom land immediately on the coast is invariably devoted to rice. Their system of irrigation is complete, and all the lands devoted to this crop can be easily overflowed.

COAL MINING AT BELLINGHAM BAY.—Since the extinguishment of the fires in June, 1867, mining is again going on successfully, in the production of from 100 to 400 tons of coal a day, which is put on shipboard at the rate of about $3 a ton, cost. The company owns 3,000 acres of land, and they have expended in improvements $100,000. The Superintendent is R. E. Myers.

GOVERNMENT AID FOR THE SUTRO TUNNEL. In a letter to the Committee on Mines and Mining concerning the bill introduced in Congress to aid in the construction of the Sutro tunnel at Virginia City, the Secretary of the Treasury, Mr. Cullough, says he has no doubt if the proposed tunnel should successfully prove the indefinite downward extent of our mineral lodes it would greatly increase the value of our mineral land, stimulate mining, and result in vast benefit to the country. The Commissioner of the General Land Office, Mr. Wilson, says geologists appear to agree in the opinion that the Comstock lode is a true fissure vein, and that it will continue of equal richness to any depth which is practicable to work in the mines. In view, therefore, of what other governments have done for mines not having a tithe of its productiveness, and of the fact that as a nation we are at this moment deeply interested in the development of all our resources, and pre-eminently so as to those of the precious metals, the Secretary acknowledges the belief that if the policy of a loan of the public credit, as adopted by Congress in regard to the continental railway, should be extended to the enterprise, now under consideration, the results that would follow would be of great value to this Republic.

PREMIUMS OFFERED.—The Committee on Premiums offer *forty-six* silver medals as special premiums, to be apportioned among the several classes according to their value or importance; and *sixteen* gold medals for the most valuable display of California products and manufactures, one each for classes Nos. 1, 2, 3, 4, 8, 9, 10, 13, 14, 15, 16, 18, 22, 53 and 27, as already given in the columns of the FAIR PRESS. A grand jeweled medal, valued at $200, is to be awarded for such meritorious invention or industrial product as, in the opinion of the judges, will be of the greatest benefit to the people of California amongst all the other fine things exhibited.

MANUFACTURE OF STEEL DIRECT FROM THE ORE.—The enormous progress which has been made within the past few years in connection with the iron and steel manufacture is sufficient to justify the hope that the oft-attempted process of obtaining steel direct from the ore, will at last be brought to a successful termination, more especially as it is now stated that furnaces have, within the last few months, been erected at Birmingham, by which pure steel can be produced at once direct from the ore, without the expenses, uncertainty, and other disadvantages attending the old and tedious processes.

GLASS WORKS.—Having seen the display of carboys, demijohns, and variously shaped respectable old bottles, labeled "syrup," "I. X. L.," "Stomach Bitters," etc., exhibited by Bennett & Co., of the Potrero Glass Factory—for which John Taylor & Co., No. 514 Washington street, are the agents—visitors to the Fair, and especially those who have occasion to use or deal in glass, cannot do better than to take a ride across the Long Bridge, and have a look at the wonders of that incomparable art, which was discovered by the Phœnician sailors two thousand years ago, and yet which the majority of us know so little about.

Mechanics' Fair.

[From the Mechanics' Fair Daily Press.]

Opening of the Fair.

This event took place at "high noon" on Saturday, under satisfactory auspices, and much to the pleasure of all who participated in the proceedings. A temporary cessation was effected as to hammering and sawing—in spite of the itching of many arms that were restrained—and the programme was carried out in full. First, the President of the Institute, Mr. Hallidie, in company with the orator of the day, the Hon. Newton Booth, of Sacramento, and the chaplain, the Rev. Horatio Stebbins, mounted the platform, being immediately followed by the substantial men, the workers and elders of the Mechanics' Institute. Chants and hymns beautifully appropriate to the occasion, were sung by 200 boys, led by the trumpets and saxe horns of Willis' band, with grand effect—a treat to listen to. The oration will speak for itself in the columns of the PRESS. Mr. Booth is a representative of the mercantile interests, and an excellent example of that broad minded trait which views and generalizes from the penchant facts surrounding us, and the existence of which in a class is the sure index of the greatness of a community. His remarks will bear reading all the way through.

The labors and cares of opening and arranging such an exhibition are incredible. We deem it, therefore, but slight acknowledgement to recognize, in behalf of the public,—for whose benefit all this work is inaugurated,—the untiring energy and obliging self-sacrafice of the working committees, and especially of the President, Mr. Hallidie, whom everybody meets and has to talk to that has anything to do with the Fair. We append hereto the

HON. NEWTON BOOTH'S ADDRESS.

Whatever virtues may rightly be ascribed to this 19th century in which we live, humility is not one of them. It is a philanthropic age. Never before were there so many benevolent organizations, never were the helpless, the blind, the insane, so tenderly cared for. It is a heroic century—its sixty-eight years have been full of that heroism that does not "set life at a pin's fee." It is a democratic age. Never have the people been of so much account, and seldom has genius been so rare. It is preëminently an age of mechanical invention. It makes steam bear its burdens, lightning carry its messages, the sun paint its pictures. But it is not a modest age. It does not lack of self-confidence or self-praise. It is brimfull and running over with egotism. It regards with self-complacent pity the centuries gone before that did not have steamboats, railroads and telegraphs, sewing machines, cooking stoves, lucifer matches, steel pens, cylinder presses, power looms, cotton gins, gang plows, reapers, threshers, apple parers, turning lathes, nitro-glycerine, giant powder, columbiads, needle guns, Colt's revolvers, steam paddles, track layers, baby jumpers, chloroform, photographs and coal oil. It looks with a kind of commiseration on the ages to come, when the world will have to use old tools, as ingenuity and human nature will be alike exhausted, and there will be no new forms to invent, no new forces to discover. If it experiences a momentary chagrin because it has not achieved the perpetual motion, nor successfully an Aviator, it is consoled with the reflection that it has not accomplished the first because it is impossible, and that it will the second because it is possible. In short, whoever has not managed to be born in the 19th century has been very unfortunate, or has made a great mistake.

Standing in this temple of art, this armory of labor filled with the implements with which toil carries on its warfare with want, and beautiful with the evidence of its triumphs, we may at least claim, with becoming modesty, that the world is now fast learning how it can most easily get its daily bread—how labor can be made most productive, for the supply of physical wants. Two other questions behind that—how the burdens and rewards of labor shall be equitably distributed, and how the time not needed for the supply of physical wants shall be so employed that the age may be clothed with an intellectual and spiritual glory equal to its material wealth and power, it has scarcely begun to solve—questions that may not be rightly solved until a civilization shall arise as superior to ours as ours is to barbarism, in a future as distant from us as we are from the creation of man.

The problem of daily bread, however, is neither easy nor unimportant. If men depended upon nature alone for food, upon game, fish and wild fruits, the country would be crowded where population averaged one to five square miles. The trapper was right, if he would remain a trapper in moving further west because the settlement was getting too thick for elbow-room when his neighbor built his cabin only ten miles away.

Consider what the world consumes every year. 200,000,000 pounds of flour, and 13,000,000 pounds of meat go down the throat of New York city yearly. Multiply by 1,000,000, and if you can conceive the result, you will have some idea of what it takes to feed the world with bare necessities. California consumes annually 365,000 barrels of flour, 700,000 bushels of potatoes, 70,000 000 pounds of meat, 1,000 tons of codfish, 38,000,000 pounds of sugar, 5,000,000 pounds of coffee, 1,500,000 pounds of tea, 5,000,000 pounds of butter, 20,090,000 pounds of rice; wears out $15,000,000 worth of dry goods and shoe leather, and burns up, besides houses and mountain towns, 250,000 tons of coal, 4,000,000 pounds of powder, 4,000,000 of candles, 1,000,000 gallons of coal oil, and 50 000,000 of cigars; not to mention the 1,500,000 gallons of whisky that annually assist to consume us. If all this had to be raised, mined and manufactured, or paid for by the labor of our hands, unassisted by art, we would have few holidays, and no pageants like this. If the world had to be housed, fed and clothed with only such crude tools as actual necessity would suggest, the many would be slaves to the few, and worn out in their service, or all would be the slaves of toil. There could be no accumulations, nothing laid up against a bad season or a rainy day, and the wolf would be continually at the door. Then whoever would succeed in pointing a stick with iron to scratch the ground, at seed-time, and whoever would teach a dog to guard the sheep while the shepherd slept, would be benefactors of the race. The man who would discover that salt would preserve meat, would deserve a patent of nobility; he who would raise a horse and make him draw a sled and carry his master, would be a king; and he who would make the wind and the water turn a wheel to grind the corn, might be worshipped as a god. Then imagine that after a day's toil that brought up no hope, and a night's sleep that brought no dreams of rest, men should suddenly awake as into a world of enchantment, and find themselves supernaturally endowed, so that they could accomplish with their hands, or by a wish, all the tools, machinery and appliances of modern life, as though each had a hundred arms and were gifted with magic—as though each were winged with swiftness like the wind, had sinews of steel and strength like the power of steam, and you will appreciate the miracle of art—realize what a load of toil invention has lifted from our shoulders, what a burden of care it has taken from the heart of humanity. Then, too, you will learn where the leisure comes from after actual wants are supplied, part of which goes into luxuries, ornaments, books, newspapers, paintings, music, houses, schools, churches, cities, culture, part into idleness, ennui, whisky, tobacco, fast life, folly, vice, crime, and all of which is called—civilization.

But this miracle of art is not the work of a night or the glory of an age; it is the work and glory of the whole of man's life on earth. In fable, Minerva sprang armed and panoplied from the brain of Jove; but in fact, art is the slowest growth of time. Take as an illustration the art of printing. The idea of printing is older than history or tradition. It is so natural and easy, it would have been strange if the idea of the printed book had not been suggested to Adam, if he had known his letters, by his own footprints on the sand. Seals were in use before the book of Job—possibly the oldest book in the world—was written; and seals used for making impressions contain the whole principle of printing. Bricks and tiles covered with characters, impressed upon the clay before it was burned, were common not only in Rome and Athens, but in Babylon and Nineveh. Wood engraving was brought into Europe from the East, long before books were printed. The printing of playing-cards probably first suggested the printing of books, which was at first simply wood engraving, each page being printed upon a block with raised letters. Then the letters were separated into wooden movable types; then metallic types were cast. Meantime the Arabs, by what processes of thought, by what slow stages of invention, I know not, had progressed from using the bark of plants, the papyrus of the Egyptian, to the manufacture of paper. The method of casting types, so that they could be easily multiplied, and the manufacture of paper, were the real difficulties in the invention of printing; when these were overcome, the Hoe cylinder press became easy, though it took the improvements of four hundred years to attain it. Nay, the press snowing newspapers daily all over the land, and sending streams of knowledge through all lands, so that whoever is athirst may come and and drink, was as inevitable as the succession of the ages when Job had written: "It is turned as clay to the seal."

Two centuries before the Christian era, Hero of Alexandria described a steam toy, a mere plaything. After two thousand years experiments, suggestions and improvements, the plaything became the steam engine. In the same manner the round-bottomed canoe, made from a log hollowed out with fire, grew into a ship. Fulton combined these two growths and made the steamboat. For more than one hundred years before Watt was born, the tramroad had been in use in England for conveying coal from the colliery to the place of shipment. Parallel rails, at first of wood, then of iron, were laid, to which wagons with grooved wheels were fitted and drawn by horses. Stephenson took the steam engine of Watt, added the steam blast, mounted it on driving wheels, and made the locomotive; put it on the tramroad, and gave the world the railway.

Hargrave's spinning-jenny, Arkright's spinning-frame and Cartright's power-loom, which were but the development of the distaff, the spinning wheel, and of the hand loom, in which Joseph's many-colored coat was woven, were contemporary with the invention of the condensing steam-engine by Watt—about 1780—and the method of puddling and rolling iron immediately followed. The steam-engine revolutionized industry—as gunpowder had war — furnishing a power stupendous in its strength, marvellous in "the ease, precision, and ductility with which it can be varied and applied, so that it can engrave a seal, or crush masses of obdurate metal; draw out without breaking a thread fine as a gossamer, and lift a ship of war like a bauble in the air; embroider muslin, and forge anchors; cut steel into ribands, and impel loaded vessels against the fury of the winds and waves;" it not only supplemented all mechanical arts, but it so stimulated the inventive faculties, that since then men have expressed their best thoughts in wood and iron. Surrounded here by these thoughts embodied in the visible forms of industry and art, we are in the presence of a poem, the epic of progress, in which the voices of all the ages blend, grander in its suggestions, more inspiring in its hopes, and sublimer in its theme, than Homer, or Dante, or Milton sang.

But let us not suppose that the germs of art have reached their full fruition in our age, nor that the future will plagiarize the present or repeat the past. A galvanic toy, the plaything of to-day, may one day supersede the steam engine. Steam, that is usually cited as the highest instance of the dominion of mind over matter, is expensive in the machinery and fuel it requires, dangerous and destructive in its explosive properties. Nature's grand forces are silent and safe. The rays of the sun exercise on earthly objects every day a *mechanical* power "in comparison with which the erection of the Egyptian pyramids dwindles into the labor of mites." The force that binds the earth together, particle to particle, is mightier than the earthquake that comes in visitation of terror. Who can touch the chain by which the sun holds the planets in their orbits? Hear what Prof. Tyndale, the highest scientific authority, says, after a mathematical calculation of one of the molecular forces that are lavished around us. "I have seen the wild stone avalanches of the Alps, which smoke and thunder down the declivities with a vehemence almost sufficient to stun the observer. I have also seen snowflakes descending so quietly as not to hurt the fragile spangles of which they are composed; yet to produce from aqueous vapor a quantity of that tender material which a child could carry, demands an exertion of energy competent to gather up the shattered blocks of the largest stone avalanche I have ever seen, and pitch them to twice the hight from which they fell." Shall not these forces in which nature is so prodigal be utilized in the art and service of man?

There are dominions of thought in which the mind has reached the limits of its capacity, but not in the sphere of mechanical invention. If we could be permitted to enter an art exhibition at Athens in the days of Pericles, while wandering through the department of machinery, agricultural implements, mechanical tools and power, we might exclaim against the poverty of the Greek mind, and the barrenness of Grecian life. But when the statues of Phidias were unveiled—when those marbles "whose headless, armless trunks, in their severe and awful beauty, are at once the delight, admiration and despair of modern artists," stood revealed in the full glory of their original perfection, we would admit that there, at least, the world had made no progress, for none was possible.

Or, if a pupil of the divine Plato could revisit the earth, he might hear at the High School in San Francisco, boys and girls reciting like a hackneyed tale, truths in science his master would have died to know; but when he would mingle with the sages of the earth, he would find that in philosophy the thoughts of his great teacher were the boundaries of human speculation, that the highest office of philosophy now was but to interpret thoughts uttered two thousand five hundred years ago. He could wander around the earth and hear no language spoken superior to the Greek in purse compass and flexibility; and he would learn that in poverty, eloquence and history, Grecian mind had furnished the models for all succeeding ages, in eloquence, poetry and philosophy, in sculpture painting, and possibly in the forms of architecture, in language as a medium for the expression of thought, and possibly in music, the language of the emotions, there will be no higher attainment than has already been reached. No race will ever arise superior to the Greek in intellectual and physical organization: and no men born of women will ever thrust Homer and Shakspeare, Phidias and Raphael, Demosthenes and Mozart from their thrones of pre-eminence.

There are also two devices, or inventions, which are, humanly speaking, perfect. One is that of Arabic numerals and the method of decimation, by which the ten simple figures the school boy scrawls upon his slate can be made to express everything the mind can conceive in numbers, reaching upward toward the infinite, and downward toward the infinitesimal. The other is the invention of the alphabet, of letters, by which 26 characters have become the factors of all human intelligence, bearing from generation to generation the thoughts and wisdom and learning of men; have become the world's memory, permitting nothing to perish that is worthy to survive; an invention so difficult to conceive, so simple in use, so grand and complete, that the world had better lose all other arts combined than to forget its A B Cs. Sometimes I have thought of them as of 26 soldiers that set out to conquer the world. That A was an archer, and B was a hagler, and C was a corporal, and D was a drummer, and E was an ensign, and F was a fifer, and G was a gunner, down to Z was a zouave, and these 26 drill-sergeants have subdued the kingdoms of the earth and of the air, taken possession of the realms of thought and founded a republic of which the wise and noble of all time are citizens and contemporaries, where there is neither death nor forgetfulness—the imperial republic of letters. Again I have thought of them as of a telegraphic cable laid beneath the waters of time, safe from disturbing storm and tempest—so short, the child's primer will contain it, so long it connects the remotest ages with the present and will stretch to the last syllable of recorded time. We pride ourselves on the successful laying of the Atlantic cable as the crowning achievment of human invention; but here is a cable that speaks not in broken, doubtful, and syllable utterance, but charged with the whole spiritual power of all human intelligence, with a circuit reaching through all time, connecting all brains and all hearts in its net work, and certain to carry every message worthy to go there to the last man who shall live upon earth.

Here is an invention so simple that the child learns its use while playing with his blocks; so grand that all generations cannot exhaust its capabilities; so perfect, no age will be able to add to or take from. In the invention of letters, man arose nearest to creative power. In other inventions he has dealt with material substance, with tangible things; in letters he created from nothing forms into which he himself could breathe the spirit of life, the immortal soul of power and eloquence and beauty.

In letters, the mind has reached the highest heaven of invention; in literature and the fine arts it has touched the boundaries of its power, and knows where the horizon meets the ear h; but in science and the mechanical arts there will be no limit to improvement while nature has one secret unrevealed, one force unappropriated. In those grand domains there "is ample scope and verge enough" for the thought, investigation and skill of all generations to come, and the work of each generation will be but the scaffolding on which the next shall stand, building toward a sky that recedes as it is approached.

With grateful reverence to the past, whose inheritance we enjoy, proud of the achievments of the present, looking hopefully to the future, to whose glories our exertions will contribute, in the name of free and intelligent labor, we dedicate this Hall to Industrial Art, conscious that year by year succeeding structures will here arise, dedicated to the same purpose, in ever-increasing magnificence of display and completeness of design and execution, evidencing progress of our State, our country and the whole race of man.

Our General Review.

STEAM ENGINES, Etc.

CLASS I.

The various articles on exhibition at the Pavilion, have been arranged into 30 classes, according to a list which has already been given in our columns. In our reports, we propose to take up those classes, as near as may be in their order, and shall continue them, from day to day, until the entire list is completed.

The Managers of the Fair have very properly put the steam engine—the most important of prime movers—the first in the official classification of articles to be exhibited at the Exposition. This important machine is also more perfectly exemplified in this Exhibition, than is often the case, even in much more pretentious mechanical displays than the one now in progress in this city. We have here three first class engines, quite dissimilar in make, and exhibited by as many different makers. We have also several smaller ones, down to those of mere model size, including among the latter, one constructed of glass, where the entire process of generating steam, conveying it to the motor, obtaining from it all its available power, and finally rejecting it into the atmosphere, where it is quietly and perfectly absorbed, may all be readily seen and observed.

The history of the steam engine from its first conception and from the early and rude contrivances by which the employment of steam was first made of practical utility, down through all the infinite variety of forms the engine has assumed in the course of its application to the infinite variety of purposes to which it has been applied, forms the most interesting and important chapter in the narrative of the world's progress in industry and art.

All the forces of nature, which it is the business of the engineer to adapt to the uses of man, are directly referable to the effects of heat. The streams which turn our water mill wheels are first elevated to the clouds by the heat of the sun; the breeze which turns the arms of our windmills is generated by local expansions of the atmosphere, due to the same source of heat; the gas or air engine can only be operated by heat. The steam engine is the recipient of the power of the heat thrown off by the combustion of coal, conveyed to it by the elasticity of vaporized water. What the generation of the vapor costs, and what it does depends mainly upon the construction and arrangement of the boilers where it is generated. Different kinds of fuel require differently constructed furnaces. A full and perfect combustion of the fuel, even to the smoke and volatile gases is essential to an economical employment of steam power. There has been nearly or quite as much study expended to secure the proper construction of furnaces and boilers, as has been devoted to modifying and improving the construction of the engine.

Go with us to the little unpretentious shed outside of the main exhibition room, and just by the Post street entrance. Here you will see the source of that quiet, yet giant power, which puts in motion all the thousand wheels, large and small, which go to make up the enumeration of the machinery which is already, or soon will be in operation throughout that department of the Exhibition. A few shovelfuls of fine coal, which the housekeeper would reject as worthless, aided by an armful or two of carpenters' chips, is, as it were, by magic, converted from inert rubbish into a power or force which will grind our corn, saw our wood, spin and weave our cloth, plane, forge and polish our iron, sew up our garments, and in fact do almost everything which man can perform, except to think and talk. All this is accomplished by steam, which takes up the heat produced by combustion, carries it along through arterial pipes to the steam engines which act as motors, moving with steady force the iron arms and fingers which

man has devised to go through their marvelous motions, in the accomplishment of work which, for precision and exactness, cannot be equaled by the most skillful of human hands!

STEAM BOILERS ON EXHIBITION.

There are but three steam boilers on exhibition, two of which are employed to make steam for driving the machinery, both built at the Miners' Foundry. These boilers are tubular in construction, 16 feet long, 48 inches in diameter, and contain 50 3¼ inch tubes each. They are both fitted up with Harris' Steam Superheater, of which we shall speak at length in a future number. These boilers are of very superior workmanship, and are capable of making steam for about 80-horse-power.

The only other boiler exhibited has been temporarily placed near the Post street entrance; it bears the entry mark, No. 109, C, and is a representative boiler of a class which should become the type of the great majority of boilers in use. This is the only steel boiler ever exhibited on this coast, and the third which has been made here. Its two predecessors were made some ten years ago for the Almaden Quicksilver mine, where they are still at work, and apparently as "good as new." This boiler has been made from Frith's best steel, which has been imported to this State especially for this class of work. It is a tubular boiler, sixteen feet long by forty-two inches in diameter, and contains thirty-eight tubes. It is [one of the finest specimens of boiler-making which we ever met with. This piece of mechanism is from the Risdon Iron and Locomotive Works, corner of Beale and Howard streets, a recently formed association, of which Joseph Moore, is Superintendent.

EXHIBITORS OF STEAM ENGINES.

There are three large steam engines on exhibition, one each, from the Pacific, the Union and the Miners' foundries. Each of these engines is representative in character, and presents points of novelty and interest which will be fully discussed in a subsequent issue of the PRESS.

There are three miniature engines in the Exhibition, which may be classed among the novelties of the Fair. First, we have one with a cylinder of three-inch bore and six-inch stroke, built and designed by Master S. G. Higgins,—a two years apprentice at the Union Foundry. This engine has been built by Master Higgins, out of regular working hours, the labor being mostly done at his home, where he has fitted up a foot-lathe with which to employ such of his leisure hours as are not devoted to books. The engine is employed to run several pumps, taking its steam from the main boiler. It is a very superior specimen of workmanship for an apprentice.

As a companion to this piece of machinery, we have another of the same sort made by Robert Blair, during the first year of his apprenticeship at the Vulcan Iron Works. It is of about the same size with the one already described, and is employed in running one of Hendy's Concentrators. An inspection of these pieces of juvenile workmanship, calls forth constant remarks of admiration from visitors, and are gazed upon admiringly and with wonder by throngs of juveniles, who very properly appear to consider them as their peculiar part of the Exhibition. They may be considered as a part of the legitimate fruit of exhibitions of this character, and may the youth who look upon them find much food for meditation, and go away with firm resolves to imitate and emulate.

Another novelty in this line is a beautiful miniature steamboat engine, made by Mr. C. H. Foster. This engine has a cylinder of 1½ inch bore by 3-inch stroke. It has a boiler attached and makes its own steam by means of several alcohol burners, which take the place of a furnace.

Still another novelty in the miniature steam engine line is a "Glass Engine," which appears to have been set up as a "side show," in connection with glass blowing and other mysteries, which we have not yet penetrated.

WRIGHT'S VARIABLE CUT-OFF STEAM ENGINE.

This fine, smooth-running steam engine, is exhibited by the Pacific Iron Works, located immediately inside of the Post street entrance to the Pavilion. The engine in principle and construction is quite novel, has been designed and built at the foundry aforesaid, and is a California engine. In simplicity of construction and beauty of design, it would be a credit to any establishment. It possesses strength to an eminent degree; while its mechanical arrangement is simple and convenient. Visitors are especially impressed with the smoothness with which it works—no jar, vibration or noise accompanying its action.

Its motion, which is exceedingly uniform, is made so by the admirable self-adjusting steam cut-off, which is the only thing about it not altogether Californian, and to which we propose to call the attention of the reader for a few minutes.

By a careful inspection of the engine, it will be seen that the spindle of the governor passes through a cam just above the bevel gear by which it is driven. This cam, being firmly attached to the spindle, by its revolution works a cut-off, as is distinctly shown. By the peculiar construction of this cam and its connection with the spindle and balls of the governor, an automatic action is produced by the governor as the rotation of the balls is more or less rapid. This automatic increase and decrease of the eccentricity of the cams regulates the amount of steam admitted to the cylinder.

To produce this effect the cam is made in two pieces, one consisting of a hollow shell or cylinder, with a part of one end formed into a cam proper. Throughout the entire length of this piece, upon the inside, there is a spiral groove cut to receive one end of a piston by which its eccentricity is regulated. The inside piece is a hub, which exactly fits in the hollow of the cylinder, and has a socket into which the spindle of the governor is screwed, the other end forming a bearing with a bevel wheel on its extremity, to convey motion from the crank-shaft gearing to the governor and cut-off. There is a hole through the length of this inside piece, which is continued through the spindle of the governor, and which contains the rod that connects the cam with the governor. This hole is eccentric to the outside surface of both the hub and its enclosing cylinder, but is concentric with the governor rod. Both the hollow cylinder and hub are connected by a feather, one piece of which is of a spiral form, and the other straight or rectangular, the two being connected together by a slab on the rectangular piece, which fits into a hole or bearing in the spiral piece, so that the latter can turn on the slab and accommodate itself to the groove in which it has to work. The spiral part of the feather works in a straight groove in the inside of the hub, the inside of the rectangular piece being fastened to the governor rod, so that the feather is permanently connected with the governor. Motion is communicated from the crank-shaft by rods and bevel wheels as shown in the engraving; the same being transferred to the spindle of the governor, as the balls rise or fall by reason of the variation of speed.

Any speed may be selected at which it is desired the engine should move, and any variation from that speed will be instantly felt and adjusted. We hope soon to give an illustration of this ingenious arrangement, by which it may be more fully understood; in the meantime, a careful observance of the apparatus in motion, in connection with the above description, will enable the mechanic, at any rate, to get a very good idea of the principle.

Weissenhorn's *American Engineering*, the highest scientific and mechanical authority, speaks of this engine as follows:

"The simplicity of this 'cut-off,' the facility with which it can be can be adjusted—the parts being but few and always in sight and accessible—its action so quick and perfect, and no throttling of the steam, but permitting it to enter the cylinder at boiler pressure—all combine to make it a most perfect cut-off."

Mechanical.

CIRCULAR VESSELS OF WAR.—The London *Artisan* of July 1st, gives a series of illustrations of various forms of circular vessels, as designed by Mr. John Elder, of Glasgow. It is claimed that the idea was first suggested by Napoleon the First, when scheming for his celebrated project of the invasion of England. Mr. Elder, however, is the first who has taken a practical view of the subject, which is now attracting considerable interest among naval engineers in Great Britain. These circular vessels are a class of iron-clads—nothing more or less than floating forts, designed to act entirely on the defensive, and to revolve when in action. Various modifications in the construction of such vessels are given in the course of the illustrations alluded to. The *Artisan* thinks Mr. Elder's designs are worthy of careful consideration, adding that "though at first sight the idea appeared somewhat chimerical to us, the more the designs are looked into, the more possible they appear." The London *Engineer* has also spoken very favorably of the project; and it is more than probable that a practical demonstration thereof will soon be made.

Want of Planer Fixtures.

The question is often asked why it is that in the majority of jobbing machine-shops the planer stands so much neglected, and its services are so seldom brought into requisition, when it might be made useful and profitable in a multitude of operations that are performed by other and more costly means. The answer is that there is usually experienced a paucity of appliances to hold work, and a lack of readiness among mechanics to adapt fixtures when such appliances are wanting. We see how often the lathe is made to perform many operations that rightfully belong to the planer, and so readily can a few simple attachments be fitted to the lathe that it often subserves, in many establishments, the two-fold purpose of both tools. As an instance, we might mention the grooving of reamers and screw-taps. The lathe to do this is so arranged that the work is not permitted to revolve, by its not being connected with the face-plate, yet the lathe acts as in the operation of turning in every other respect, the tool being made to feed as usual, and when so progressing it removes a shaving from a rod or cylinder in a longitudinal direction as it thus travels or feeds along. This is often done while the planer stands neglected. The reason is self-evident. There is no fixture upon the planer to hold such work, while the lathe-centers present a ready means for so doing. It is needless to affirm that "centers" are an indispensable adjunct to the planer, yet are not always found in connection with it, and when such neglect is evident then there may be an excuse for fluting reamers, cutting key-seats, and performing similar operations upon the lathe. Unless work of this character can be done at the lathe with a mill or circular cutters, it ought not to be submitted to the action of tools similar to turning tools and in the manner described, as much injury to the tool carriage is often the result. The lathe is especially designed to produce circular cutting, and should be employed to produce no other; and let the planer be fitted with sufficient tools and fixtures to hold any kind of work, and its sole office be to accomplish all the straight cuts that are needed to be made.

GUANO AND CHEMISTRY.—Instead of being used for manure, guano has also been found an economical source for the manufacture of phosphoric acid, embracing the igniting property in friction matches. Thus the same material that raises the food of man and beast lights the fop's cigar. It builds up the hay rick and wheat stack, and helps to form the instrument with which the incendiary burns them down. Wealthy farmers and street Arabs who sell halfpenny boxes of lucifer matches are often dependent on the excretions of sea birds who frequent a desert rock in the West Indies.

RAILROAD SIGNALS.—In the course of the trial of an engine-driver at the Gloucester (England) Assizes, on a charge of manslaughter, of which he was acquitted, the counsel for the defense incidentally gave an easy rule for remembering and distinguishing railway signals:

White for "right," *red* for "wrong,"
And *green* for "gently go along."

Scientific Miscellany.

SCIENCE AND THE LOSS OF QUICKSILVER.—When quicksilver is used for the amalgamation of metals, the presence of chlorine will, under certain conditions, cause it to combine with the quicksilver, forming calomel, which has a different specific gravity from the amalgam, and is, therefore, carried away and lost. It is estimated that 300,000 tons of quicksilver have been lost in that way. G. H. Munn advises the treating of the insoluble residue with nitrate of soda and hydrochloric acid, in order to convert the insoluble subchloride of mercury into the soluble bichloride, or corrosive sublimate. This solution is to be treated with sulphide of calcium, which is formed as a winter product by the final reduction process. The mercury will be changed thereby into a black sulphide. After drying, the sulphide is to be placed in retorts, with the proper amount of slacked lime. The mercury is then obtained by distillation, and is caught in a receptacle containing water, connected with the retorts. The sulphide of calcium residue in the retort is then used for changing the sublimate into the black chloride. All this seems to be simple enough if it is capable of being economically carried out. The calomel could be separated by means of some one of a score of well known mechanical devices for such a purpose.

INTERESTING SCIENTIFIC FACT.—Mr. W. R. Birt has called the attention of astronomers to a spot now visible on the surface of the moon, and presenting the same phenomena as those latterly observed in the crater Linnæus, and the true nature of which might be investigated by means of photography. The spot in question is situated under two degrees west longitude and five degrees south latitude, and presents variations of appearance which can hardly be explained otherwise than by volcanic action, exactly as in the case of Linnæus. Now, in Mr. Birt's opinion, these apparent changes of shape can only be explained by supposing that these two craters are provided with a sort of lid, which, from time to time, conceals the orifices. Such a lid might be made by filling up, and crusting over the orifice by cooling.

ACTION OF WATER UPON LEAD.—The conditions which determine the action or non-action of water upon lead, have hitherto been involved in much obscurity. The Government Commission for the supply of water to the city of London, established the fact some years since, that the presence of "dissolved oxygen" (oxygen mechanically mixed with water), and the absence of more than three volumes of carbonic acid, in 100 volumes of water, are among the conditions necessary for its injurious action upon lead. It has more recently been discovered that water which acts powerfully upon lead can be completely neutralized in that respect, by momentary contact with animal charcoal or bone-black. Phosphate of lime, the chief constituent of animal charcoal, is also a complete preventive of the action of water upon lead.

ELECTRO-MAGNETIC MOTOR.—By an invention of L. C. Stuart, recently exhibited at the College of the city of New York, a series of magnets were longitudinally arranged in an open case, about three feet long, so that they could be connected at pleasure, by a wire, with a battery in the basement, which consisted of forty cups. When the current was turned on the magnets were so ingeniously placed in connection that they revolved rapidly like an axle. This magnetic axle turned a small wheel, and worked the piston-rod of a pump by which water was raised nine feet. It would be rated in the market at a quarter-horse power. The cost of working was fifteen cents an hour. Prof. Doremus said it was in advance of anything of the kind yet produced, and could be turned to practical account in various mechanical operations.

Mechanics' Fair.

[From the Mechanics' Fair Daily Press.]

General Review of the Exhibition.

STEAM ENGINES, Etc.

CLASS I.

[Continued from Page 99.]

In continuing our notices of the engines on exhibition, we come now to the one farthest removed from the Post street entrance. This engine has been manufactured by H. J. Booth & Co., and in its massive proportions and simplicity of design, makes a very fine appearance, and attracts a large share of attention from visitors. The rods connecting the different parts of the engine are few in number straight and direct, giving the desired effect without complication or friction.

It has a cylinder of 16-inch bore, with a 30-inch stroke, 8-foot hand wheel and 16-foot fly-wheel. The chief interest connected with this engine, consists of

SCOTT & ECKART'S AUTOMATIC GOVERNOR AND SLIDE VALVE CUT-OFF,

Patented June 25th, 1867, by Irving M. Scott and William R. Eckart, of this city. This invention forms a very beautiful and simple contrivance for controlling the speed of an engine under all conditions, whether loaded or suddenly relieved from the entire work or gradually unloaded. The principle consists in connecting the ingress of steam directly with the governor, making it supreme, shutting off or letting on steam as circumstances determine. This is accomplished by means of connecting the cut-off plates with two gears, which are moved by the governor either close together or far apart. The friction of the valves and machinery is held by a screw upon which the governor acts, thus relieving the governor from all work except the adjusting of the plates. By an ingenious contrivance this screw is made to unhook the clutch when the valves are wide open or when they are shut. This is an important point, for if the engine should ho run at a speed not sufficient to move the governor when the valves are wide open, the clutch is withdrawn and no work or wear is on the governor, and the engine has the benefit of steam for the full length of stroke. Again, if the speed should be suddenly accelerated and the valve shut, the clutch is disengaged at that end and the engine quickly controlled, while no work or wear is on the governor. So long as the speed is kept up the facility with which perfect regulation of speed is accomplished may he seen when fifteen revolutions of the governor move the valves from one extreme to the other, and the governor makes 65 revolutions per minute; thus, in a quarter of a minute, a movement takes place either to turn on her whole steam or to shut it off, and the engine cannot vary in speed under such conditions. It has the advantage of opening the steam port wide at every admission into the cylinder, a very important point which prevents wire-drawing of steam. Another point of great importance is this—supposea cut-off attached to the governor, such as the Corliss, Putnam, Green, or Reynolds, and the gearing or belt which drives the governor should break or run off, the governors immediatcly turn on full force of steam, and the engine is sent whirling at a fearful speed, without any regulator at all. But in the Scott & Eckhart, if the belt or gearing breaks or gets out of order, the steam is left gauged precisely as it was at the time of the breakage, which will give ample time to the engineer to discover the accident.

There are nineteen of these engines in use in this and adjacent States, all with good reeults, as a simple and effective machine, and located as follows: Crescent Mill, Plumas County; Rawhide Ranch Mill, Calaveras; Keystone Mill, Amador; Manhattan Mill, Reese River; Twin River Mill, Kern River; Vulture Mine, Arizona; French's Mill, Silver City; Angels Camp, Calaveras; Genesee Flour Mill, San Francisco; Sacramento Water Works; Hunter's Valley Mill, Mariposa; Quail Hill Mill, Calaveras; Kimball's Carriage Factory, San Francisco; Venus Flour Mill, Oakland; Rising Star Mine, and one now at the Mechanics' Institute Pavilion. These engines vary in size from 14-inch cylinder with 30-inch stroke, to a 20-inch cylinder with 42-inch stroke.

THE HICKS STEAM ENGINE.

Located between the two engines already noticed, is one of very peculiar construction, which attracts much attention for the novelty of its appearance and construction. It is one of the plainest and simplest pieces of machinery in the Pavilion, and will be used to-day as the motor for the machinery on exhibition. This engine was built at the Miner's Foundry, in this city. To the ordinary eye it may seem faulty in principle; but this impression is produced altogether from the novelty of its design and construction. It is as much unlike any steam engine heretofore produced as can well be conceived; yet, judging from its operations at the Pavilion, and from the reports of its performances elsewhere, it seems to give results quite satisfactory, both as regards economy and durability.

Among its most valuable features appear to be its simplicity, its small liability to get out of order, and its exceedingly light weight—as this engine, complete, does not weigh more than the mere fly-wheel to an ordinary engine. These advantages are especially important in connection with engines designed for use in the mountains, at a distance from machine shops where repairs can he made, and where the skilled labor of either machinists or engineers is difficult to be procured. The small weight of the engine, in proportion to its effective working power, is a most important consideration, where it is necessary to transport machinery a long distance, and over rough roads.

The inventor of this engine claims for it the entire principle and action of the best reciprocating engines, while its details are so far simplified that the pistons connected directly with the crank form the only moving parts; and these, with the cylinders and bearing parts compose the whole engine. It would be impossible to convey to the reader, who has never seen the working parts of the engine, any intelligent idea of its construction and principle of working without full illustrations. This engine forms quite a novel and interesting feature in the Exhibition.

The engine exhibited by the Pacific Foundry was fully described and illustrated on the first page of yesterday's issue.

In continuing our notices of motive powers, we come next to water-wheels, windmills, etc., which we shall endeavor to complete in our next issue.

WATER WHEELS.

It is to be regretted that none of the numerous inventors or proprietors of water wheels have seen fit to exhibit at the present Fair. The omission is quite noticeable.

WINDMILLS.

Before the days of steam, the wind mill was a great institution; even now, in many parts of Europe, it is extensively employed for grinding, sawing, expressing oils, working pumps, etc. It is but little used in this country, except for pumping. Among all modern improvements, since the days of the redoubtable Sancho Panza, few have been of more practical value to agriculturists and horticulturalists, especially to such as reside in poorly-watered districts, than this simple device for obtaining power. The crude structure of a century ago, with its huge arms, seldom more than four in number, and requiring a massive structure for its support, bears but a slight resemblance to the elegant and simplified structure of to-day.

The windmill, while it performs all the offices of steam, except where an exceedingly uniform motion is required, consumes no fuel, requires next to no attention, and is of but trifling cost; but catching the breeze from any and every quarter, it brings it in quiet subjection to man, and employs its power in various ways, but, most of all, to dispense the aqueous blessings of heaven to the thirsty soil, or grateful beast.

Only two specimens of this useful device are on exhibition at the Pavilion—one of which is of model size, manufactured and sold by E. O. Hunt, Nos. 114 and 116 Spear street. This is shown inside the Pavilion, near the center of the machinery department. This mill revolves on its center to receive the wind from any direction, and is so constructed that it can be readily stopped in the strongest wind, by the gentle application of a brake. It is built in five sizes, with arms from eight to twenty feet in diameter.

The other is of working size, and is exhibited outside of the Pavilion, and in operation just to the right of the main entrance. This mill was built by Atwood & Bodwell, 216 Mission street, and is well known throughout the State as a cheaply constructed, reliable windmill. Great numbers of them have been sold, and they speak for themselves to all who desire to procure such an article.

AGRICULTURAL IMPLEMENTS.

CLASS II.

The department of machinery affords more articles of general interest and attraction at the present time, to the wandering sight-seers at the Fair, than any other branch of the Exhibition. It is in the immediate charge of T. J. Winship, the engineer who traveled the revenue cutter Shubrick on an overland journey recently,—as the reader will recollect,—up in Mendocino county, and who was kind enough to walk with us through the subdivision of Manufacturing Machinery, in order to show us, in default of a list which there has not been time to make, what there is to be seen, and what is to be put in motion for the edification of persons interested and concerned.

A shingle cutter, by F. A. Huntingdon, is first met with. It consists of a circular saw, and some smaller saws at right angles thereto. The working of it will be described when they commence manufacturing shingles, which is promised as soon as they will be able to put it in order. A gas pipe and screw-cutting machine is on exhibition by J. Dougherty, which may he seen at work any evening. There are two competitory tire up-setters, for bending wagon tires, on exhibition by Mr. Robinson, and by Hughes, Campbell & Co. A new idea in the way of a blacksmithing hammer is presented by Peterson & Jones, being a large spring hammer worked by a treadle, spring attachment, while the smith holds the iron in his hands. A wire manufacturing machine is on exhibition by Mr. Hallidie. Faulkner & Co. are there with a complete set of type-molding machinery, which is at work turning out the letters as fast as they can he counted. A fancy loom from the San Francisco Woolen Factory is at work every evening in manufacturing shawls. Frank G. Edwards exhibits the paraphernalia for printing wall paper, and shows a variety of specimens. A fine display of circular and other saws by the Pacific Saw Manufacturing Company, completes the list on that side of the building.

The Agricultural Implements are classified as a subdivision of Class II, Manufacturing Machinery, though it is a matter of protest on the part of the agriculturists, who claim to stand one degree farther back, nearer to nature, and amongst the producers.

The articles especially worthy of examination are Hunter's Grain Separator, a machine taking the place of the fanning mill, but without the use of wind as an agency. There is a vertical percussion in connection with variously sized sieves. Two hay presses are on exhibition: Price's, which was shown also at the last Fair, and Gillivrae's, manufactured by H. G. Pratt. Of gang plows there are a number: Holloway's, of Eastern manufacture; the Sweepstake, manufactured at San Leandro; Ingham's Sulky Gang Plow, a California invention; and the Decator Gang Plow, from Hanley's establishment. A cotton gin and condenser, and Pitt's Improved Separator are on exhibition by Baker & Hamilton. Ready's Everlasting Cultivator Tooth is hung up on a string. C. A. Fargo shows an ingenious wagon-brake, which elicits for him the congratulations of everybody who stops to examine it. Two important desiderata are gained, viz: great power at easy control, and the removal of the brake block so far from the wheel as to escape all clogging in muddy weather. The principle applied is that of shifting levers, and its operation is very simple. The brake costs very little more than the ordinary brake, and it will save its price in two months in horse flesh. A seed planter is exhibited by Winter; a self-raking reaper and mower, by Russell Erwin Co. A variety of articles are shown by W. N. Hawley, viz: a feed cutter, a Parlin & Orendorff Plow, a Smith's Turf and Stubble Plow, a Buckeye Mower, and another mower with a self-raking attachment. F. B. Lamb exhibits Wellington's Vegetable Cutter, a coffee mill-shaped machine, with semi-circular knives in the place of the teeth in the coffee mill. The Staudish steam plow will be noticed in full hereafter.

STEARINE CANDLES.—There are very few persons who have any correct idea of the processes animal fat undergoee before it is converted into the beautiful, snowy white candle. The articles exhibited by the California Candle Factory, illustrate these changes in a manner that none can fail to understand. There are large cakes of fat which are converted into a substance about as black as asphaltum, which ultimately become as white and flakey as snow. The candles made from this material are as hard and bright as if made of porcelain. The California made candles deserve the high character they have attained. The fat of California-raised cattle makes better stearine than those raised in the Northern or Western States. This curious fact partly explains why these candles are so superior. But the skill of the workmen employed has much to do with the matter.

NAHL'S JOAQUIN, in the Art Gallery, attracts a great deal of attention. It is the most spirited thing in the exhibition. The robber is represented as being fired at, and escaping from a body of pursuers in a cañon at dusk, by riding up on a rocky ledge at the side. His expression, on the canvas is remarkable, showing Nahl to be an artist of great power, and accustomed to study his subjects closely from life. Joaquin was an ordinary wild greaser, such as we see everywhere in the pack-trails. Robber life is not yet a thing of the past in California, though it is now confined to a few localities in the vicinity of mountain thoroughfares, whence we occasionally hear of striking incidents, which, however, are taken as a matter of course by the residents. Characters of a very picturesque description might be picked up by such artists as Nahl, in some of the half-deserted mining camps that we could direct him to.

GIFFORD'S BIRDSEYE VIEW OF THE CITY AND COUNTY.—At the southern end of the Art Gallery, the visitor will see a well executed birdseye view of the City and County of San Francisco, showing every feature of the topography of the entire peninsula, as well as all the architectural landmarks and prominent buildings and institutions of the city, the names of which are located by an accompanying reference chart, or key. An excellent idea can be formed from it of our geography and surroundings, and it will be interesting especially to look at before making a visit to the ocean beach, or the southern limits of the county, or to the Laguna. G. H. Montgomery has undertaken the canvassing of the city for the artists, Messrs. Gray & Gifford, and the price has been fixed at four dollars.

EXAMINE the goods of the Womens' Coöperative Union, near the fountain in the Pavilion, if you have not done so already, at their store, No. 39 Second street. They make a fine display.

CONTINENTAL Life Insurance Company, 302 Montgomery street, corner of Pine.

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board
San Francisco, August 15, 1868.

Financial.

Gold in New York, August 14th, 3 P.M., 146⅞; Sterling 199@199¼.

Money requirements in our local market are decidedly brisk, both for ordinary mercantile and crop accounts, but the supply is fully equal to the improved demand, imparting a sense of repose and confidence in business circles. Good double-backed paper continues to be done in bank at the crystalized rate of 1 per cent. per month, single endorsements ruling ¼ per cent. higher. The demand at the savings banks for loans upon mortgages exhibit the employment of a larger volume of capital, the available funds of those institutions being considerably reduced. These transactions are effected at 1 per cent. per month. We are under the impression that the recent remarkable fluctuations in gold in the New York market induced some parties to remit rather too heavily, in anticipation of future Eastern obligations.

Gold bars are in light demand, and are quotable at 880@890; silver bars are abundant, from par to ¼ per cent. premium; currency bills on Atlantic cities rule from 44@45¾ per cent. premium on gold, being a rise of 1 per cent. since the 6th August, and 3 per cent. since the 30th July: sight drafts, payable in coin, ¾@1 per cent. premium; telegraphic transfers are offered at 1@1¼ per cent. premium; sterling exchange, 48¾@49d; commercial do, 49¾@49½d; Mexican dollars, 50@6 per cent. premium, with active market on Chinese account; exchange on Paris, 5 francs for thirty days.

The following were the several balances in the State Treasury on the 1st of August:

General Fund	$26,390 49
School Fund	38,841 03
Interest and Sinking Fund, 1857	51,382 11
Interest and Sinking Fund, 1860	7,801 10
State Capitol Fund	3,748 97
Military Fund	8,639 20
Soldiers' Relief Interest Fund	6,594 80
Pacific Railroad Fund	7,829 32
Soldiers' Bounty Interest Fund	19,773 83
Line Officers' Interest Fund	50 72
Insane Asylum Fund	1,922 22
Swamp Land Fund	132,711 85
State School Land Fund	37,372 57
Estates of Deceased Persons Fund	7,419 67
Library Fund	4,841 72
Hospital Fund	13,804 96
Soldiers' Relief Fund	5,431 64
Soldiers' Bounty Fund	8,969 98
Line Officers' Fund	1,598 10
Harbor Protection Fund	290,305 16
War Bond Fund	10,763 90
Wharf and Dock Fund	22,315 55
State Prison Fund	382 28
State University Fund	48,296 61
Supreme Court Library Fund	735 00
Swamp Land Districts, Nos. 1 to 43	103,009 55
Total	$831,600 53

The shipments of Treasure from August 1st to date (exclusive of Government account) have been as follows:

August 3—Per Japan—		
To China	$875,888 19	
To Japan	2,000 00	
		$877,888 19
August 5—Per Nevada to New York		215,000 00
August 6—Per Sacramento—		
To New York	$499,375 51	
To Panama	15,000 00	
		514,375 51
August 11—Per Montana—		
To New York	$179,207 78	
To England	141,416 06	
To France	32,587 17	
To Panama	10,000 00	
		363,211 01
Total since August 1st, 1868		$1,970,474 71
Previously this year		23,231,910 12
Total since January 1st, 1868		$25,202,384 83
Corresponding period 1867		26,822,585 31
Decrease this year		$1,620,200 48

City Stocks.

The market for shares other than mining shows considerable activity, and the transactions exhibit an advance over previous sales. San Francisco Gas stock is in demand, selling at $78 50@78; Spring Valley Water realized $66, seller 30; Pacific Insurance Co. stock rose to $120, seller 30; Union Insurance sold at $89 50. Twenty shares of San Francisco Insurance Co. stock sold at $105 per share. The following monthly dividends have been declared since our last issue: California Steam Navigation Co., 1½ per cent.; Omnibus Railroad, ½ per cent.; North Beach and Mission Railroad ½ per cent., and The Bank of California, ita usual 1 per cent.—all payable on and after to-day.

The first annual meeting of the German Savings and Loan Society was held on the evening of the 10th inst., when the following named persons were chosen Directors for the ensuing year; L. Gottig, M. Mendheim, Geo. H. Eggers, Fritz Koester, Jacob Gundlach, Claus Spreckels, Henry Schmiedell, Fr. Roeding and C. F. Mehius. Subsequently, C. F. Mebius was re-elected President; G. Wetzlar, Secretary, and John R. Jarboe, Attorney.

The San José Railroad Co. held its annual meeting on the tenth, when the following persons were chosen Directors for the ensuing year: H. M. Newhall, Charles Mayne, Peter Donahue, Lloyd Tevis, W. C. Ralston, Myles D. Sweeney and James O'Neill. H. M. Newhall was re-elected President; W. C. Ralston, Treasurer, and J. L. Willcutt, Secretary. The Company is reported to be in a much more prosperous condition than at any previous period. The railroad between San José and Gilroy, a distance of thirty miles, is being carried forward, and it is thought will be completed by the end of the year.

Mining Share Market.

The mining share market since our last similar reference has been somewhat irregular, prices showing a material decline. This downward tendency has brought a considerable amount of stock into the market, and the transactions—mostly of a speculative nature—have been quite large. Under this recession outsiders are disposed to enter the market more freely to benefit by the reaction which is sure to follow a very noticeable decline. Stocks are now repeatedly resold upon a trifle advance, and in such cases the sales do not involve a corresponding amount of money, but merely the advance or decline upon first purchases.

The Reese River *Reveille* published a tabular statement of the average bullion yield per ton of forty-one mines located in that region for the quarter ending June 30, 1868, from which we learn that the highest average is $995 and the lowest $78 per ton. The number of tons of ore reduced during the quarter amount to 2,173½, against 1,753 for the previous quarter. The total yield of this number of tons is $410,110 48, and the average yield per ton is $188 50—the computations being in currency. The total product of the previous quarter was $318,825 29, and the average yield per ton was $181 87. The present table compares favorably with those of the previous quarters. The bullion shipment from the office of Wells, Fargo & Co., in Virginia, Nev., for the month of July aggregated $661,387 80, against $689,501 02 for June—being $28,114 12 less than for the previous month.

SAVAGE—has been largely dealt in, falling from $129 to $106, and at the close sold at $110½. For the week ending August 8th, the yield of this mine was 943 tons, showing an average assay value of $37 18, against 1,184 of an average production of $40 36 to the ton the previous week. This has been the smallest weekly yield for some months, and is said to be partly due to the bad condition of the ground, which required speedy attention. In the north mine, from the fifth station, there is no change in drift or cross-cut, and the ore is reported to hold out well in raising up under the sills of the "five points." In the south mine, same level, the cross-cut has not yet reached the east clay. Winze No. 1 goes down slowly in very hard rock—quartz and porphyry; while No. 2 has been sunk fourteen feet through very good ore. The north drift from the sixth station shows no change, and is now forty feet from the forks; while the south drift, from forty to forty-five feet from the forks, is said to be coming into some quartz and ore, and upon this the Superintendent remarks that they are still 140 feet from where he expected to find ore. He hardly knows what to think of it, as it does not resemble the ore on the fifth station. A dividend of $10 per share is payable since the 11th. The July dividend was $15 per share. A telegram of August 13th says that they have had no serious trouble in the south mine this week, and are gradually getting faces opened again.

CROWN POINT—dropped from $87 50 to $72, improved to $77, and closed at $78. A telegram of August 14th states that the drift from the 900 level was in 140 feet, and the winze from the 800 level had attained a depth of 74 feet. The stopes between the 700 and 800 levels furnish the principal supply of ore, showing no change for some days. The daily ore product is now from 100 to 120 tons. The July receipts of bullion amounted to $145,923 against $116,000 in June, and the expenses foot up $79,348. For August account $9,800 in bullion has been sent forward. A dividend of $5 per share is payable since the 12th inst.

KENTUCK—has been in moderate request, opening at $383, then selling at $350@355 ex-dividend, and closing yesterday at $375. The aggregate receipts for July foot up $138,860 against $120,766 in June. For August account the receipts have been $10,404.

YELLOW JACKET—sold largely at fluctuating rates, rising from $1,080 to $1,165, receding to $1,145, advancing to $1,180, falling to $1,090, and closing at $1,125. The *Trespass* of the 8th inst., has the following: "The crosscut of the drift from the 810 level has passed through a body of quartz forty feet wide, with ten feet of good ore, and has penetrated into the east country. The drift is now being run south, and will follow this stratum of ore to the Kentuck line. The hoisting works at the old north shaft will soon be put in order and work re-commenced in the north mine. The hoisting works at the new shaft are also being overhauled; the present system of brakes is to be done away with, and the hoisting will be done by steel wire cable and reverse engines."

CHOLLAR POTOSI—declined from $138 to $130, and closed at $135. During the week ending August 7th extracted 760½ tons of ore. With the additional force employed they will increase the yield of the Blue Wing stope from 30 to 40 tons per day. On the 7th inst., the drift from the 1,000 level of the new shaft was in 132 feet; and the southeast branch of drift from 1,100 level was 56 feet in length, running in hard rock, and the northeast drift was in 73 feet.

AMADOR—has been on the market to a larger extent than usual, declining from $260 to $217 50, and closing at $233. Nothing from the mine to cause this fall. They have recently expended considerable money in the purchase of real estate and mill property, as well as for the construction of a dam, etc. A dividend of about $4 per share may be expected for the present month.

SIERRA NEVADA—sold at $38 75@34 50, closing at $36. On the 7th the east drift on the 710 level was in 60 feet, and the west drift 45 feet, having hard quartz and much water to contend with. The 20-stamp mill nearly completed for this company will soon commence to crush. They are taking out about 50 tons of ore per day with only five miners. ....ALPHA rose to $51, declined to $45, and closed at $46 50. The drift from the 250 level has been carried to the last post in the old timbers, running in a very hard gray porphyry, and as soon as they are far enough ahead will make a turn to the south. The Imperial is said to be finding pay ore on both sides of the hard belt which this company is getting into.

IMPERIAL—has been rather quiet at $112@106, closing at $107. The 700 level of the Alta shaft is said to be improving. Nothing as regards the lower level of the new shaft. On the 13th, $0,516 was sent forward; this decreased yield is due to the temporary stoppage of the mill....OPHIR sold at $20 50@18, closing at $19 50. The new shaft was 380 feet deep on the 12th; rock still hard, with some indications for a favorable change.

The sales in the Board during the past week have been as follows: Open sessions, $955,638; regular sessions, $1,943,089—total, $2,583,727.

CANADIAN MINING.—The Toronto *Globe* complains of the arbitrary suspension of sales and threatened exaction of a royalty, by the government of Ontario, on the products of gold and silver mines which have been discovered along the north shore of Lake Superior, as being the cause of their retarded development.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE.
Alameda Coal, June 25, $1	Aug 4	Aug. 21
Amador Co., dividend, $6 per share	Payable July 20	
Alpha Cons., Storey co., Nev., June 22, $5	July 27	Aug. 15
Adriatic, Storey co., Nev	Special Meeting Aug. 15	
Adriatic, Storey co., Nev., May 20, $1	June 30	Aug. 17*
Bacon, Storey co., Nev., div	Payable June 10	
Belcher, Storey co., Nev., July 13, $25	Aug. 13	Sept 14
Bear River, Nevada co., June 10, $1	July 29	Aug. 17*
Chipiconena, Mexico, July 9, $5	Aug. 13	Aug. 31*
Cherokee Flat B. G., Butte co., July 1, $5	Aug 4	Aug. 21
Crown Point, dividend, $7.50	Payable July 11	
Dancy, Lyon co. Nev., July 27, $2	Sept. 1	Sept. 20
Enterprise, Meadow Lake, July 11, $4	Aug. 11	Aug. 27
El Tesoro, Mex., June 18, 25c	July 20	August 16
Empire M. & M., Nev., dividend $6	Payable May 15	
Folsom St. & F. Pt. R. R. Co., July 30, $5	Aug. 29	Sept. 11*
Glo e, Alpine co	Special Meeting, Aug. 21	
Gold Hill Tun., Storey co., Nev July 18, $2	Sale Sept 9*	
Gold Hill Q M & M—dividend, $7 50	Payable July 13	
Golden Rule, Tuolumne co, div 50c	sh... Payable June 26*	
Hope Gravel, Nevada co., July 30, $1	Sept. 10	Oct. 5*
Hale & Norcross, Storey co., Nev., July 22, $10	Sale Sept 14	
I X L., Alpine co	Annual Meeting Sept. 10*	
Imperial, Storey co., Nev., div	Payable June 18	
Kentuck, div., $30 per share	Payable Aug. 10	
Kearsarge, Inyo co., Aug. 4, $	Sept. 4	Sept. 21*
Kohler Bros., L. C., July 2, 25c	Aug. 6	Aug. 27
Lady Bryan, Storey co., July 25, $1	Payable immediately.	
La Victoire, Mariposa co., July 15, 50c	Aug. 18	Sept. 4
Morning Star, Alpine co., July 15, $2 50	Aug 17	Sept. 7
North Star, dividend, $5	Payable Aug. 10	
Pacific Unassessable, div	Payable June 18	
Rattlesnake, Yuba co., Aug. 7, $2	Sept. 10	Sept. 28*
Rose Linda, Alpine co., July 25, $5	Sept. 1	Sept. 16
Rising Star, Idaho Ter., June 23, $50	Aug. 8	Sept. 9
Rising Star, Idaho	Special Meeting Aug. 15	
Silver Sprout, Inyo co	Special Meeting, Aug 31*	
Silver Sprout, Inyo co., Aug. 4, $3	Sept. 4	Sept 21*
Siempre Viva, Mex., June 15, 50c	July 31	August 17
Santiago, Silver City, dividend	Payable July 9	
Savage, Virginia, Nev, dividend, $15	Payable July 10	
Sierra Genoa, Nevada, June 30, $5	July 30	Aug 21
Sand Spring salt, dividend $1	Payable June 5	
United States, Storey co., Nev., June 29, $1	Aug. 3	Aug 19
Virginia & G. H Water Co	Dividend, payable May 15	

*Those marked with an asterisk (*) are advertised in this ournal.

Latest Stock Prices Bid and Asked,

S. F. STOCK AND EXCHANGE BOARD.

FRIDAY EVENING, Aug 14, 1868.

	Bid.	Asked.
MISCELLANEOUS STOCKS.		
United States Bonds, 5 20s	$ 75	78
Legal Tender Notes	68¾	69¼
California State Bonds, 7s, 1857	90	95
San Francisco Bonds, 10s, 1851	102	103
San Francisco City Bonds, 6s, 1855	82½	—
San Francisco City and County Bonds, 6s, 1858	89	—
San Francisco City and Co Sch'l Bds, 7s, 1866	87½	—
San Francisco City and Co. Bonds, 7s, 1862	87	—
San Francisco City and Co. Bonds, 7s, 1864	84	85
San Francisco City and Co Bonds, 7s, 1865	84	85
San Francisco City and Co. Judg. Bds. 7s, 1863	84	85½
San Francisco City and Co. Judg. Bds, 7s, 1864	82½	—
Sacramento City Bonds	23	25
Sacramento County Bonds, 6s	75	—
Marysville Bonds, 10s	75	85
Stockton City Bonds	70	85
Yuba County Bonds, 10s	78	80
Santa Clara County Bonds, 7s	78	85
Butte County Bonds, 10s, 1860	70	75
San Mateo County Bonds, 7s	75	17
California Steam Navigation Co	70	75
Spring Valley Water Co	65¾	66¼
State Telegraph Co	25	30
GAS COMPANIES.		
San Francisco Gas Co	77	79
Sacramento Gas Co	80	—
RAILROADS.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	76	—
Central Railroad	52½	—
North Beach and Mission Railroad	73½	75
Front Street, Mission and Ocean Railroad	11	12
BANKING INSTITUTIONS.		
California, Loan and Savings Society	—	—
Pacific Bank	97½	—
The Bank of California	157	158
INSURANCE COMPANIES.		
Firemans' Fund Insurance Co	85	86
Pacific Insurance Co	117	120
San Francisco Insurance Co	—	105
Merchants' Mutual Marine Insurance Co	479	483
California Insurance Co	1300	1400
Union Insurance Co	38	39
California Home Insurance Co	—	—
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	78	80
National Insurance Co	—	—
Builders' Insurance Co	90	—
MINING STOCKS—WASHOE DISTRICT.		
Alpha	46½	47¾
Baltimore American	—	—
Belcher	115	120
Bullion, G. H	16	17
Crown Point	78	80
Confidence	—	—
Chollar-Potosi	134	135
Caney	—	—
Exchequer	17½	19
Empire Mill and Mining Co	110	115
Gould & Curry	81	—
Gold Hill Quartz	60	61¾
Hale & Norcross	74	75
Imperial	107	108
Kentuck	376	380
Lady Bryan	11	12
Ophir	19	20
Overman	79	80
Savage	110	112
Sierra Nevada	36	38
Yellow Jacket	1125	1135
Golden Rule, California	10	—

San Francisco Market Rates.

Wholesale Prices.

FRIDAY, Aug. 14, 1868.

Flour, Extra, ₱ bbl	$5 75	@6 50
Do. Superfine	5 25	@ 5 50
Corn Meal, ₱ 100 lbs	3 25	@ 3 50
Wheat, ₱ 100 lbs	1 65	@ 1 85
Oats, ₱ 100 lbs	2 35	@ 2 50
Barley, ₱ 100 lbs	2 00	@ 2 75
Beans, ₱ 100 lbs	3 00	@4 00
Potatoes, ₱ 100 lbs	1 05	@ 1 15
Hay, ₱ ton	10 00	@15 10
Live Oak Wood, ₱ cord	9 00	@10 00
Beef, extra, dressed, ₱ lb	8	@ 10
Sheep, on foot	3 00	@ 3 50
Hogs, on foot, ₱ lb	4½	@ 6¾
Hogs, dressed, ₱ lb	8	@ 9
GROCERIES, ETC.		
Sugar, crushed, ₱ lb	14¾	@ 15
Do. China	10	@ 11½
Coffee, Costa Rica, ₱ lb	15½	@ —
Do. Rio	—	@ 17
Tea, Japan, ₱ lb	65	@ 85
Do Green	60	@ 1 25
Hawaiian Rice, ₱ lb	—	@ 9
China Rice, ₱ lb	6	@ 6¾
Coal Oil, ₱ gallon	35	@ 40
Candles, ₱ lb	15	@ 18
Ranch Butter, ₱ lb	40	@ 50
Isthmus Butter, ₱ lb	30	@ 35
Cheese, California, ₱ lb	13	@ 18
Eggs, ₱ dozen	35	@ 40
Lard, ₱ lb	13	@ 15
Ham and Bacon, ₱ lb	12	@ 16
Shoulders, ₱ lb	9	@ 10

Retail Prices.

Butter, California, fresh, ₱ lb	40	@ 50
do. pickled, ₱ lb	25	@ 35
do. Oregon, ₱ lb	15	@ 25
do. New York, ₱ lb	35	@ 40
Cheese, ₱ lb	20	@ 25
Honey, ₱ lb	25	@ 30
Eggs, ₱ dozen	50	@ 60
Lard, ₱ lb	15	@ 17
Hams and Bacon, ₱ lb	20	@ 25
Cranberries, ₱ gallon	85	@ 1 00
Potatoes, ₱ lb	2	@ 3
Potatoes, Sweet, ₱ lb	3	@ 5
Tomatoes, ₱ lb	5	@ 6
Onions, ₱ lb	—	@ 5
Apples, No. 1, ₱ lb	4	@ 5
Pears, Table, ₱ lb	5	@ 7
Plums, dried, ₱ lb	11	@ 15
Peaches, dried, ₱ lb	10	@ 11
Oranges, ₱ dozen	75	@ 1 00
Lemons, ₱ dozen	1 00	@ 1 50
Chickens, apiece	50	@ 75
Turkeys, ₱ lb	20	@ 25
Soap, Pale and G. O	7	@ 12
Soap, Castile, ₱ lb	15	@ 16

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

FRIDAY, Aug. 14, 1868.

IRON.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar 1@1¼c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1¾@1¾c ₱ lb; Plate, 1¾c ₱ lb; Pipe, 1¾c ₱ lb; Galvanized, 2¾c ₱ lb.

Scotch and English Pig Iron ₱ ton	$35 00	@$37 50
White Pig ₱ ton	35 00	@ 37 00
Refined Bar, bad assortment ₱ lb	— 03	@ — —
Refined Bar, good assortment, ₱ lb	— 04	@ — —
Boiler, No. 1 to 4	— 04¾	@ — —
Plate, No. 5 to 9	— —	@ — 04¾
Sheet, No. 10 to 13	— 04¾	@ — 5
Sheet, No. 14 to 24	— 05	@ — 5¾
Sheet, No. 24 to 27	— 05	@ — 6¾
COPPER.—Duty: Sheathing, 3¾c ₱ lb; Pig and Bar, 2¾c ₱ lb		
Sheathing, ₱ lb	— 28	@ — 26
Sheathing, Yellow	— —	@ — 22
Sheathing, Old Yellow	— 11	@ — —
Bolts	— 21	@ — 22
Composition Nails	— 21	@ — 22
TIN PLATES.—Duty: 25 ₱ cent. ad valorem.		
Plates, Charcoal, IX, ₱ box	12 50	@ 13 00
Plates, I C Charcoal	11 00	@ 11 50
Roofing Plates	10 50	@ 11 00
Banca Tin, Slabs, ₱ lb	— —	@ — 30
STEEL.—English Cast Steel, ₱ lb	— —	@ — 15
QUICKSILVER.—₱ lb	— 55	@ — 60
LEAD.—Pig, ₱ lb	— 7½	@ — 8
Sheet	— 10	@ — —
Pipe	— 11	@ — —
Bar	— 9	@ — 9¼
ZINC—Sheets, ₱ lb	— —	@ — 9¼
BORAX.—California, ₱ lb	— 20	@ — 25

San Francisco Prices of Copper Ores.

SAN FRANCISCO, Aug. 14, 1868.

We give the following as an approximate price at which copper ores can now be sold in this city. There is no sale for ores which assay less than 12 per cent. The late reduction in price is on account of the advance of freight:

			Per ton.				*Per ton.*
12	per cent.	ore	$16 00	22	per cent.	ore	$43 56
13	"	"	18 62	23	"	"	46 45
14	"	"	20 20	24	"	"	49 37
15	"	"	23 35	25	"	"	52 22
16	"	"	28 2-	26	"	"	55 11
17	"	"	29 12	27	"	"	58 00
18	"	"	29 91	28	"	"	60 80
19	"	"	34 90	29	"	"	63 77
20	"	"	37 78	30	"	"	66 66
21	"	"	40 67	31	"	"	60 55

These prices, we believe, will be found substantially correct, and can be realized at this date.

RESOURCES OF LOWER CALIFORNIA.—Mr. Gabb, in his notes on Ross Browne's expedition to Lower California, says copper and gold exist in nearly every part of the territory, as well as the baser metals, which are not worth looking after; and coal is reported, but it is probably asphaltum. Three places are noted for salt: San Quentin, Ojo de Liebre and Carmen Island. Many little valleys and nooks exist among the granite mountains of the South still unoccupied, and which could be brought into luxuriant cultivation.

SAILING CRAFT.—The fleet of very well-behaved and orderly sloops which the visitor will see sailing around the circular fountain, like Commodore Stringham's war steamers before Fort Hatteras, are really propelled by the wind. There is a current of air caused by the falling of the water, which blows outward from the center of the fountain.

GO AND SEE Tustin's Patent Adjustable Windmill, at the junction of Mason and Turk streets with Market. *

THE UNION FOUNDRY steam engine furnishes the power this evening at the Fair.

Delays are Dangerous.—Inventors on the Pacific Coast should bear in mind that by patronizing our Patent Agency they can sign all necessary papers for securing patents almost immediately, thereby avoiding the three month's delay requisite in transacting business through Eastern agencies.

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County.

Markleeville *Miner*, August 1st: The Morning Star Co. have completed their road from the dump to the shaft, and lumber is being hauled over it.

The work of putting in the machinery of the Monitor Consolidated mill is progressing finely. The crusher is in position, and to-day the workmen are at work on one of the pulverizers.

Chronicle, August 1st: Orders have heen received here to clean out the shaft on the Knox claim, which is a southern extension of the I. X. L., preparatory to commencing work on it. The work will progress under the superintendency of Wm. Kent, of this town.

Amador County.

Jackson *Ledger*, August 8th: Steve Kendall has commenced operations on his sulphuret mine on Grass Valloy creek. Thoss' sulphuret works jog steadily along, and we hear he has been successfully testing ore from several of the West Point mines.

Sunday last, they cleaned up at the Coney & Bigelow mill, after a run of twenty days, and the yield was the largeet ever taken out in the same length of time.

The proprietors of the Casco mine have at last struck the ledge, and it is looking well.

The famous Anaconda mine at Pine Grove, after having lain idle for some time in consequence of inability to keep out the water, has been cleared of its superfluity. and good quartz is heing taken out, to be worked at the Italian mill ou Else creek. A large amount of refuse rock is also heing crushed.

Calaveras County.

Mokelumne Hill *Chronicle*, August 8th: In old Rich Gulch, Staples & Co. have struck a vast body of very rich ore in the Palomo mine, and are actively engaged in erecting an additional battery to the one already in operation. At present, the company have but 8 stamps employed; hut their motive power being of sufficient capacity to run 16, they will soon have that number crushing. The company are also contracting for the erection of another mill on their mine. Alexander & Co., in the same district, are still taking out ore in large quantities. Their mill has been in operation considerahly over a year, and has paid romarkably well from the day it started. Norton & Co. have suspended operations for a few days, but will speedily resume labor upon their mine. Homer & Co., proprietors of the "Quaker City" mine and mill, near the Junction, have commenced crushing. Their mill has a battery of 10 stamps. At Railroad Flat, Mr. Said, proprietor of the "Petticoat" lead, has been crushing rock which yielded $100 per ton. He has two shafts sunk on the lode to the depth of 100 feet each, and is at present engaged iu driving a level to connect them.

San Andreas *Register*, August 8th: The owners of the Sciefiard claim will begin operations immediately upon their mine. Their prospects are good.

We are informed that a company of San Francisco capitalists are about concluding arrangements with Mr. Thorne, for the working of the Ben Thorne quartz mine.

Kern County.

Havilah *Courier*, August 1st: The Kernville correspondent writes: Wadligh's new 10-stamp mill was started upon Wednesday last. It has capacity sufficient to crush from 25 to 30 tons of rock daily.

The mills of Ellsworth & DeLand and Hutton & Co. are admirahly arranged. Their ore is extracted cheaply and pays well.

Evans' furnace has heen in blast some time, and bas roasted 30 or 40 tons of tailings for the chlorine process. He has just received his apparatus for generating gas to put theee roasted sulphnrets through the chlorine process. He will soon have everything iu readiness, when he will be ahle to work up three or four tons daily.

T. J. Oders' mine—the Queen of the West—at Sandridge, ahove the Kern River Miuing Co.'s mill, makes a good showing. Oders is down 25 or 30 feet on his lead. His first grade of ore yields $204 a ton; second grade, $60 per ton.

Los Angeles County.

News, July 31st: Miller writes us from the Soledad mines, that the mines are very rich, the lodes large and well defined. New works are being built, and the camp has every evidence of prosperity. A large number of new claims have heen taken up, and prospecting is goiug rapidly forward. A substantial report from that quarter, in the shape of solid gold bars, is expected before a great while.

The *Alta* of this city, of a late date, says: A quantity of eilver ore from the Zapata mine, Los Angeles county, near the place where gold was first discovered in California, was brought here by the Orizaba for reduction. This ore closely resembles the best from the Comstock lode, Nevada, and it is believed that it will work very rich. The mine is owned by Dr. Winston, one of the pioneers of California.

Mariposa County.

Gazette, August 7th: The Pedro Goza mine, situated on Bear Creek, belonging to Bogan & Co., of this place, has been yielding splendidly for some time past. The last clean up, after a run of five days, netted $1,800; thirty-six ton of rock was crushed. Owing to a scarcity of water, the mill is not now running; to take advantage of the scarcity, the proprietors propose to erect a dam, which will enable them to run ten hours a day.

The Phillips copper mine, at Buchanan Hollow, has changed hands. Improvements will be made in the emelting works, aud an additional number of hands will be added; all of which will increase the amount of ore raised and smelted, and insure a euccessful and profitable working of this valuable mine. We understand that the copper mine situated at James' ranch, known as Nelson & Co.'s, will soon commence operations.

Nevada County.

Transcript, August 5th: The American Co., at Birchville, after a run of 24 days, made a partial clean up on Saturday last, and took out $12,000.

August 6th: The miners at South Fork, near Eureka, are doing first rato. Recently, the Gem mine was opened by Cowles, Palmer & Co. It is located near Black & Young's mill. They ran a tunnel 65 feet, struck the ledge, and took out 26 tons of rock, from which they cleaned up $873 50, after crushing at Black & Young's mill.

Tho Birchville Co. have struck the ledge in their new tunnel, and are now prepared to take out rock. The Birchville Company have heen working a year, and have never levied an assessment, the rock paying well from the surface.

Sweet & Co. have uncovered enough of their ledge to take out 200 tons of first class rock, which looks well, and will be crushed at Palmer & Everingham's new mill. The mill will be running in two or three weeks.

Mulligan is also taking out fine rock from a four foot ledge, which will he crushed at the new mill.

The Jim mine is being worked, and the rock ohtained is looking first rate.

August 8th: The cement mill erected some time since in Marselus & Maltman's claims is being removed to Eddy's claims, at French Corral.

A 12-horse engine for the hoisting works of the Kansas Co. arrived in this city on the way to the mine, on Thursday night, consigned to A. D. Allen, the Superintendent. The Bansas ground was recently purchased by Mr. Allen, and work has already been commenced upon it.

August 9th: There is now considerable activity in mining matters throughout the ceunty. Machinery is being fitted up on a number of claims, and in others the capacity of machinery is being increased. During the past week a number of teams have passed through town loaded with material for mills and machinery in other parts of the county, and some new works are heing put up in this township.

The Rising Star mine, on Deer Creek, is yielding handsomely. In sinking their incline the company recently struck a new vein above the old ledge, which is 20 inches thick, and from which good rock is being taken.

August 11th: The Bloomfield Gravel Mining Co. are engaged in building a large ditch to carry water to the mining camps along the ridge, and they are also engaged in mining operations.

Gazette, Aug. 6th: About a month ago we recorded the purchase, by J. E. Squire, W. W. Cuzzens, G. R. Atkins and Martin Whie, of the ditches and mining ground known as the Gardner property. The same parties have now purchased of Thomas Findley the mill, mining ground known as the Pond and Remington claims. The purchase price is $35,000. The several purchases embrace all the ditches, mills, and the bulk of the mining ground on the Little York ridge.

Grass Nalley *National*, Aug. 7th: The last crushing of rock from tho Seven-Thirty mine was eminently satisfactory to the fortunato owners. Twenty-two loads of rock were crushed at the Gold Hill mill, and at the clean up yesterday over $1,100 were realized, being an average of $50 to the load.

Wm. M. Eddy & Co. are erecting a 15-stamp mill at Freuch Corral, for the purpose of crushing the auriferous cement which abounds in that locality.

August 10th: A rich strike was recently made at Osborne Hill.

Plumas County.

Quincy *National*, July 25th: Mr. Gamblin has sold his mining claim on Rich Gulch to Messrs. McBeth & McNeally, for $1,050.

Courser & Co. have commenced cleaning up bedrock. The water has failed at this place, but will last for some time yet at other points in the viciuity of Twelve-Mile Bar.

The Greenville correspondent writes: Mining items are scarce. Wilson Bros. have been running for a ledge for some time, and have just got in. They are taking out some good rock. Taft, Waterworth & Co. are doing very well in their surface claim, near the Indian Valley mills.

Aug. 1st: Kober, Stevens & Co. are working a river claim on the Middle Fork, at a point above Peoria Bar. They have good prospects.

Mr. Henry White is putting a wing-dam in the river, a short distance above Nelson Point. He got a fine prospect in the claim, last fall and it will prohahly pay hig when he gets it dry.

Sierra County.

Downieville *Messenger*, Aug. 8th: The Good Hope recently worked 50 tons of rock from their mine in the Montpelier mill, the ore yielding $20 to the ton.

The Port Wine correspondent says: The Monte Cristo Slope Co. are doing first rate, taking out more than donhle wages.

The Eagle Co. is doing first rate also, at present.

Tulare County.

The Tail Holt correspondent writes: Tho mines in this vicinity are developing remarkahly well this summer. The Sarah Campbell, owned hy Carter & Co., has exceeded their most sanguine expectations, both in the richness of the ore taken out and in the size of the lode. Malthy & Biggs aro extracting large quantities of ore from their Eclipse lode, and a portion of it of unprecedented richness. They are getting rock on hand for another big run.

Dr. James has been prospecting and working two of his lodes for several months past, both of which give evidence of heing two of the best lodes in the vicinity. Mr. Bullock, of Grizzly Gulch, is still at work on his placer claim and is doing well.

Times, Aug. 1st: Mr. Wadley, who has the Ellsworth & Deland's mill, on Kern river, made a run of a little less than a week, and cleaned up $1,840. New developments in these mines give indications of their becoming as rich as any in the State.

ARIZONA.

Prescott *Miner*, July 25th: A party of prospectors left Wickenburg, last week, to hunt for gold in the mountains on the north side of the Gila, between Agua Caliente and Gila City.

We learn that times at La Paz are good. A dry washing company has been organized, and are at work on good gravel. There was some talk of erecting a quartz mill in the vicinity of La Paz. Mr. Sparks informed us that several hundred pounds of rock from the lode near King's Wells, upon which he hae been to work for some time past, were sent to San Francisco eome time since to be tested.

Groom, Cole & Little have gone to the Sterling mill. They will sink a shaft on the Platauka silver lode.

A conditional sale of the Sterling mine has been made to parties, who will go to work on it inside of 50 days. The sum to be paid is $30,000. The gentleman who made the purchase intends to work the rock by the chlorination process.

Work upon the Chase lode is being pnshed forward vigorously. Another tunnel has been started. The water comes in fast in the old tunnel, and eome spots have to be timbered. The ledge is looking well in hoth tunnels, but is largest in the new.

Owing to the wet, damp weather, which, no douht, makes the air bad in the shaft, work upon the Chloride has been for the present suspended.

Mr. Davis has sold the Mitchell mine, in Mohawk County, to the Pittsburg and California Gold & Silver Mining Co., who are now erecting a mill, etc., to work the ore at a point on the river, five miles below Mohave City. The Mitchell will average $30 to the ton. Mr. Hardy and others at that place are operating upon other mines.

COLORADO.

Georgetown *Miner*, July 23d: Several very promising silver veins have heen discovered iu Boulder Conuty the present season....John T. Herrick commenced cupelliug on Tuesday evening last....Col. Hale is raisiug a large quautity of very superior silver ore, from the Griffith lode, one of the old gold discoveries. He is also developing the Mills County lode....Huepeden, Wolters & Co. have shipped, since our last report, 1,007.40 ozs. of silver bullion, coin value $1,109.94....It is rumored that extensive and valuable gold diggings have hcen struck in the vicinity of Georgetown. ....Tho Knowles furnace, with which experiments have beeu made in the Lyon's works at Black Hawk, has been very euccessful in smelting the ores of that section, and arrangements are now being perfected for its introduction in this district. ....Tom Munsell has just discovered a new and very promising vein on Leavenworth Mountain, the show of mineral in it beiug very good, right at the surface. Pearson & Fellows are driving an adit on the Awanda lode, on Leavenworth Mountain. They have a large vein of argentiferous galena, from which we have seen some very fiue specimens. Tufts & Baxter are opening a fine galena-bearing vein on Sherman Mountain, that is producing some very fine ore. Gen. Marshal has shown us some very fine galena and sulphuret ore from the W. B. Astor lode, on Leavenworth Mountain. The Marshal tunnel cuts the vein on the surface only.

Central City *Register*, July 23d: The owners of the Astor lode have struck a fiue pocket of sulphuret of eilver, which is extremely rich. C. T. Sabin ran a small lot of ore from tbe Champion lode, last week, that yielded $70 per ton, coin—$420 per cord. There is a good vein of this kind of ore in the mine, and it will probably be worked this summer. The new mill of the Barrett Co., on the Winnebago lode, has heen pounding away quite husily for several days, and is doing finely. Yesterday, 31 ounces of hard amalgam were cleaned up from one cord of ore.

We have seen some ore from the Gilpin County tunnel, which was the finest silver ore we ever eaw. It is largely made np of horn silver. The ore is a chloride, and contains upward of 75 per cent. of the metal. When rubbed with a moistened polished knife blade, it at onco presents the metallic lustre of pure silver. This sample of ore would douhtless assay several thousand dollars per ton, and an assay might be made from it which would yield $15,000.

Denver *News*, July 22d: Col. Tannatt is going to put 40 stamps into the mill bnilding of the Rocky Mountain Co., at Mountain City. Two pans of the pay gravel of the South Park, of which there are at least 20,060 acree, were prospected in our presence, and the gold melted into an assay button. It weighed one dwt. and three grains, worth 90¼ cents in gold.

The Montezuma correspondent, Summit County, writes as follows: Donnelly and O'Donnell are opening their lodes on Nigger Hill, Bevan District. They have six lodes ehowing more mineral than any other six lodes in the county. From a shaft on the Bunker Hill, fifteen feet in depth, five cords of galena has heen taken, some of the pieces weighing from 200 to 450 pounds. Andy Peddie still has his big run in Negro Gulch. He is also working some silver lodes on Nigger Hill. Illinois Gulch is being mined by McCartney & Co., and the usual pay taken out. In French Gulch, mining is carried on with great activity. Four different fluming companies are hard at work, and taking out good pay. McFadden & Madden, Sisler and Mower, are working in Stilson Patch. Rippey, Clark, Iliff and Tood are working in the gulch near Lincoln City. All hands are realizing large wages. Somo new comers are about to lease Capt. Walker's stamp mill at Lincoln City, to work ore from lodes near the city. Aaron Hopkins is mining in Corkscrew, taking out good pay. In Gold Run, John Shock, Peabody, Mumford, Eherlin, etc., are hard at work and getting good pay. Governor Steele and Col. Harbor are at work on Delaware Flats. Work is also being carried on in Buffalo Flats. Christian, Breece & Co. are working Galena Gulch, which has been laying idle for a year or so, and are taking out larger pay than ever before. New and rich diggings, in Soda Gulch, on the Blue River, about eight miles below Breckinridge, are being worked by W. P. Pollock & Co. The finest gold now heiug taken out in the country is from this gulch. It coins near $17 to the ounce.

Same, July 29th: Gentlemen recently from Georgetown say mining affairs in that section are prosperous. Many are opening lodes, getting out considerable rich ore, and making improvements. The emelting works are being enlarged and somewhat altered, to meet the increasing demand on them.

DACOTAH.

Sweetwater *Mines*, July 25th: We were over to Yankee Gulch the other day, and found them all doing well. Wilson & Co. are taking out from 8 to 15 ounces per day, and only working two or three hours either. They took ont a fine nugget recently, weighing but a little less than $100. If they

had sufficient water to work the gulch as it ought to be, there would hardly be any limit to the amount of dust they would take out.

In Spring Gulch they are doing very well considering the scarcity of water. Messrs. Hincelin, Poire, St. Ledger and Neall will have their four-stamp mill completed and at work next week.

The Empire Co. is continning the work upon their ledge, and have a shaft down to the depth of 18 ft., four by six feet wide. The vein has gradually widened since the commencement of work upon it, and is now four and a-half feet wide. They are taking out nothing but quarts, the vein being wider than the shaft at the surface. The character of the quartz is excellent, some of it exhibiting free gold in abundance.

The owners of the Jennie Worrel Lode, in Shoshone district, have a shaft sunk upon it 18 feet deep, disclosing a vein two and a quarter feet in depth, with both wall rocks in view, making it thus far a well-defined ledge. The company are actively at work developing its richness, and will soon have out 75 or 100 tons of ore to be crushed in arastas.

IDAHO.

Lowiston *Journal*, July 18th: Another party of prospectors for quartz lodes, left here on Thursday last. They will examine the country about the headwaters of the Polouse River.

Owyhee *Avalanche*, Augnst 1st: The machinery for the Ida Elmore hoisting works has arrived.

MONTANA.

Helena *Post*, July 31st: Just at present the gold trade of Helena is very lively, and the brick manufacture is correspondingly brisk. On Monday, Prof. Steitz, at the First National Bank Assay Office, smelted half a dozen bricks, weighing in the aggregate 1,450 ounces, worth $26,742. One of these bricks is worthy of special notice on account of its size, its weight being 594 ounces, and its coin value $10,346. Another assay office, that of Mr. F. Bohm, smelted for the three days ending last night, 2,204¾ ounces of gold, worth in coin $52,-917. Their brick manufacture for yesterday alone, resulted in the sum $10,000. A large run was also made yesterday by Messrs. Molitor Bros., who turned out $14,000 worth of bricks.

Two large nuggets were found in Bear Gulch last week, one of them weighed five pounds, and the other was worth $500.

On Saturday afternoon Mr. F. Bohm, at his assay office on Main street, manufactured the largest gold brick that has ever made its appearance in the Territory. The bar weighed 1,346 ounces, or over 112 lbs. Its fineness was .882½, and its coin value $24,722.58. It was shipped to the East yesterday, per Wells, Fargo & Co., the expressage upon it alone costing $1,060.56. The gold dust from which this brick was manufactured was purchased, during two days only, at the banking house of Messrs. Bohm & Auh, 986 ounces of it having been bought of two miners from German Gulch. Messrs. Bohm & Anb report that an abundance of dust is being offered for sale, so that they are able to ship large bars by every coach. We understand that a $50,-000 brick is on the docket.

The Wm. Nowlan mill has recently been crushing upon the new quartz from the Cable lode, and cleaned up on Sunday last a lot of amalgam, which has been manufactured into a brick weighing 139 1-8th ozs., .829 fine, and worth $2,384.09. This brick is the result of a 5 days' run with 10 stamps upon the quartz referred to. Although unassorted, the rock yielded over $30 per ton, and it is thought almost fabulous results may be obtained by a careful selection of quartz for crushing.

One hundred and fifty linear feet of the Poor Man'e Joy ledge at Phillipsburg, are now exposed to view. Fully 1,000 tons of quartz are now in eight, besides 400 tons on the dump pile.

Water is rapidly subsiding in Confederate Gulch, and the work of reöpening the drain ditch is progressing finely. Thompson's Gulch continues to pay well. Benton Gulch is still being prospected.

Virginia *Democrat*, July 25th: Accounts from Norwegian Gulch are very flattering. Soguen & Co., in three days, with two men on bedrock, took out $300. A couple of nuggets, one weighing $90, and the other $50, have recently been found....Salmon River is paying better this season than it has been expected it would....Bedrock has been struck in the Grizzly Gulch drain ditch just above town, and $250 taken out in eight days' run.

A recent run on the Kearsage lode by the Postlewaite mill, cleaned up $60 to the ton. By selecting the rock more carefully it is thought that from $100 to $125 to the ton may be obtained. Specimens have been recently taken from this lead, in which the quartz was literally tied together by threads of gold....Rock is being taken from the Mesler, which will pay $75 per ton....The last sale of quartz on the Watseka lode was at the rate of $15 per foot.

NEVADA.

Esmeralda.

Aurora *Union*, Aug. 1st: The Kearsarge Co. at Independence, have cut a fine vein of ore seven ft. thick in their new draft.

On Monday last two large freight teams, loaded with Camanche ore passed through Aurora en route to San Francisco. One of the paties informed us that the company had shipped to Swansea 17½ tons of ore which would net them $250 per ton.

Humboldt.

Winnemucca *Argent*, Aug. 6th: Saturday last, J. M. White brought 1,938 ounces of crude bullion to town for shipment; was the run of less than four days on Golconda ore. The mill does good work and gives its regular weekly shipments of silver.

The Little Giant mine, Battle Mountain, is one of the best, if not the best, one in Nevada. First four and one-half tons crushed gave a yield of $160 per ton. The next batch was 22 tons, and the yield has exceeded expectations.

Reese River.

Austin *Reveille*, Aug. 1st: Wells, Fargo & Co. shipped from their office in this city during the month of July, 209 bars of bullion, weighing 16,001 pounds, and valued at $228,328 43.

Yesterday, Triplett, Superintendent of the South American mine, gave us a specimen of the ore which is produced at present from his works. The ore contains some base metals, but is of good quality, and is taken from a ledge four feet wide. During the past week the ore has been produced in large quantities, and as soon as the Manhattan mill is re-opened a lot will be sent there for reduction.

August 4th: J. W. Beard, who has just arrived from Tuscarora District, gives the following: Some prospecting was going on in the district, and new paying ground had been discovered; but at present the miners are not washing for want of water. The Beard brothers have the fullest confidence that a number of gulches and ravines in the district will pay from $5 to $10, and even $20 a day to the hand; and they have engaged in the enterprise of bringing the water from McCann gulch to the principal gulchee where gold occurs.

August 5th: A small bar of gold, weighing about five pounds, was brought into this city last evening. It came from the gold-bearing ledges of the Mammoth district, and is the product of ore reduced in an arastra belonging to J. C. Merrill & Co. The ore from which the bullion was obtained is said to be of a high grade.

Three bars of bullion, produced at the Knickerbocker mill, near Ione, were brought into the city yesterday afternoon.

August 6th: We saw to-day at the assay office of David Lundhom, five bars of bullion, of the average fineness of .946, and valued at $5,869.29. The bullion was produced at the Monte Cristo mill, in the district of White Pine, and was obtained from ore of the Hidden Treasure mine in that district.

Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Virginia *Enterprise*, August 6th: The Gould & Curry Co. are vigorously engaged in the work of sinking their main engine shaft. It has now attained the depth of 1,020 feet, and is being deepened at the rate of 18 inches per 24 hours. No drifting will be done until the shaft is down 1,100 ft. A huge excavation some 30 feet long and nearly 20 ft. deep, has just been made for the foundation of a new 180-horse-power engine, which is to be used in pumping. The engine is one formerly in use at the company's mill.

A streak of excellent ore, some 18 inches in width, has been struck in the 700-foot level of the Imperial mine. As yet, the extent of the deposit is a matter of conjecture, but it is thought probable that it will lead to a large body above.

August 8th: The streak of good pay ore found the other day in the old 700-foot level of the Imperial mine, proves to be more extensive than was at first reported. It is five feet wide, and growing wider as it is sunk upon. The winze which is being driven down to the 900-foot level will follow the streak, and it is hoped that it may reach all the way.

The Alpha Co. are still engaged, it is said, in cleaning out the debris and sediment that accumulated in their shafts, drifts, winzes, etc., during the time the works were lying idle.

Wells, Fargo & Co. shipped from their offices in this city and Gold Hill during the past week, 14,010 pounds of assayed bullion, valued at $393,525.88.

Mr. Walter S. Hobart has leased the north end of the old Chollar mine, and is now preparing to extract ore for his mill. The old works, from which the machinery was taken out some time since, have been refitted.

Trespass, Aug. 4th: There was shipped from Wells, Fargo & Co's Gold Hill office this morning 22 sacks of bullion, weighing 1,948 lbs., and of the assayed value of $50,-534.60.

Aug. 8th: Dispatched from Wells, Fargo & Co's office in Virginia, this morning, four bars of bullion, weighing 202 pounds, and worth $6,000.

NEW MEXICO.

Santa Fe *Gazette*, July 25th: Mr. Shelby, who has just arrived from the Moreño mines, reports that good claims are being discovered constantly, and that more gold has been taken out of the claims worked this season than is generally believed.

The work on the Red River Ditch is progressing rapidly and will be concluded by the latter part of September.

Mr. A. Joseph, of Taos, one of the proprietors of the Last Chance claim in the Moreño mines, brought to the city last week, for shipment to the East, 318 ounces of gold. Mr. Joseph showed us a specimen of quartz taken from a lead found on the Last Chance claim which equals anything in richness we have ever seen. He states that several rich quartz leads have been discovered lately on gulch claims that are being worked. Water is getting scarce at the mines.

The *New Mexican* reports on the authority of a gentleman just down from Maxwell's, that the latter has a quartz lead that assays $19,600 per ton, and that he is about to put up a stamp mill to crush the quartz.

ORECON.

Dalles *Mountaineer*, July 31st: There is a rumor that new mines have been discovered on the Malheur River, and quite a large number of men have left for that locality.

Several men that went out with old Meek to look for the Emigrant mines, have returned. They say that Meek knew nothing about the country after they got to Stein's Mountain.

Portland *Oregonian*, July 25th: A letter from Cañon City states that it is the opinion of those well posted, that more gold will be taken out in that region this year than ever before.

A very rich streak of pay quartz was struck in Timber Gulch, Jackson County, last week. The rock was sacked at the lead and thus taken to the mill to prevent loss.

Last week, says the Roseburg paper, a party of our townsmen started to the Bohemian district. They went prepared to build and work an arastra, and thoroughly develop and test some of the richest leads.

The Motive Power at the Pavilion.—Messrs. Holmes and Coleman, committee on power and machinery at the Fair, have given instructions to Mr. Thomas Winship, Chief Engineer at the Pavilion, that the machinery shall ho run, on alternate days, by the three engines which have been placed in position as motors for the exhibition. Only one engine is to be connected with the main line of shafting upon any one day. Engines disconnected from the main shafting may be run at any time at the discretion of the Chief Engineer. This arrangement is a very proper one, as it prevents confusion, and will greatly aid in determining the relative practical workings of the several engines which are placed in competition.

Freight of Ores.—On a common road wheat would consume its own value if carried three hundred and fifty miles. In other words, it would be worthless at that distance from market, while by rail it can be carried three thousand miles at a profit. To state the matter differently, railroads multiply by ten the distance from any grain market at which its wheat may be raised. The same remarks apply, with evident variations, to other productions, as ores. We shall soon know what benefits can be derived, in this respect, from the completion of the Pacific Railroad, in regard to the permanence of some of the lead and other mining districts situated near the line of the route.

[From the Mechanics' Fair Daily Press.]

Our Industry and Destiny.

It is novelty and variety that entices and charms us as we follow our eyes through the details of an Industrial Exhibition. Instruction comes to us in a thousand shapes. We are learning something from every invention and device to meet the wants of man, which leads us so much further into that knowledge of natural laws, the acquirement of which seeme to be one of the principal objects of our being. As civilization itself is the child of our necessities, having been built up from its very foundations by the useful arts, so it is a truth worth bearing in mind in our visits to the Fair, that the varied contents of the building speak to us in a tone which compasses the entire scale of our human nature. It is Pantology made practical. We take in little facts here and there which operate in their silent way, and in many a subsequent case of practical application, assert themselves with mighty force. That the principle of these exhibitions is founded in the spirit of the age, will not be questioned when we recall their frequency and scope in modern times, and their engrossment of the world's attention, as compared with the tournaments and feudal pageants, the gladatorial contests and mythological rites which stood foremost in other times, whose character we can realize only as we realize a mountainous landscape in its distant parts, by those parts that are more near.

We have but to take a schoolboy's summary glance at history to be struck with the fact that the different ages and peoples which stand as our ancestors in civilization, had widely different missions; that while Greece developed the beauty and nobleness of humanity in its youth, Rome exhibited its concrete grandeur as shown in statesmanship, France its flexibility and universality, Germany its trait of striving to fathom the unknown, England its practical combination and application of all the preceding to the reclamation and mastery of the world. We can feel and know that our land likewise has its own destiny, for it is already outlined—a destiny which will loom up as picturesquely in history as the story of its first discovery, and which will prove as different in effect from that, which has been developed by the human life of the old world as our continent lies separate and apart from that, between the Eastern and Western oceans. The nation that sings a national hymn like that which was sung at the opening of the Exhibition on Saturday by many hundreds of school-children, whose pure voices mingled with the clear and living masculineness of the trumpets of the orchestra—has surely its own peculiar burthen, and noble end to accomplish:

> My native country! thee,
> Land of the noble free,
> Thy name I love;
> I love thy rocks and rills,
> Thy woods and templed hills;
> My heart with rapture thrills,
> Like that above.

While we are occupying ourselves with the engrossing details and the vanities of our own little exhibitions—acting our part as individual motors in the several branches of industry and effort which have fallen to our lot in the development of the coast, by virtue merely of our necessities, let us not overlook why we have been created with such necessities; why it is that the successful are rewarded; and wherefore it may some day come to pass that California, the land of manly adventure, the home of the fabulous modern golden fleece, with its snowy mountains and its sunny oat hills facing the Orient, shall be required to play the crowning and impressive part in the destinies of our age of the mechanic arts.

Removal.—Our friends will please bear in mind that the Mining and Scientific Press Office, Patent Agency and Job Printing Office has been removed from 505 to 414 Clay street, about half a block below Sansome.

Mining and Scientific Press.

W. B. EWER,.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

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WRITERS should be cautious about addressing correspondence relating to the business or interests of a firm to an individual member thereof, whose absence at the time might cause delay.

Our Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1868

Dr. L. G. Yates is our duly authorized traveling agent. July 6, 1867.

Mr. A. B. Butler is a duly authorized traveling agent and correspondent for this paper. July 15, 1867.

Resident Agents.

CENTRAL CITY, C. T.—Messrs. Richards & Crane, of the City Book Store, Main street, will act as our agents.

GEORGETOWN, C. T.—John A. Lafferty, Postmaster, is our agent in this place.

DENVER CITY, C. T.—Messrs. Woolworth & Moffat, are our agents for this place.

CHEYENNE, D. T.—Mr. Robert Beers is our authorized agent for this place.

OMAHA, N. T.—Messrs. Barkalow & Brothers, are our agents for this place.

Notice.—The partnership of C. W. M. Smith, W. B. Ewer and A. T. Dewey, has been dissolved this day by mutual consent. The Patent Agency and Newspaper Business of the MINING AND SCIENTIFIC PRESS will be continued under the firm-name of Dewey & Co., by A. T. Dewey and W. B Ewer.

San Francisco, August 1, 1868.

San Francisco:

Saturday Morning, Aug. 15, 1868.

Notices to Correspondents.

DECORATOR.—The theory of colors is based upon Sir Isaac Newton's observations on the decomposition of white light. Objects themselves are presumed to be void of color, but when placed in white light they absorb the rays of one or more colors, and reflect the rest; the object, therefore, appears to be, of the color that would result from the ray, or mixture of rays, which it reflects; green objects, for example, absorb the red rays, and reflect the yellow and blue; purple absorb the red rays, and reflect the red and blue. The rays so absorbed are termed *complementary* to those which are reflected; a complementary color being always that tint, which, when added to the primary color, would, upon the eye, constitute white light. The theory of color may be illustrated by placing any colored object in the light of one tint, or *homogeneous light*, as it is called, such as that of an isolated portion of the spectrum. A green object, for instance, placed in the blue rays will appear blue; if placed in the yellow rays it will appear yellow; and a white screen, which has the power of reflecting all the colors, will take any tint in succession, according to the color of the incident ray. An object of pure red, on the contrary, will appear black in any but the red ray, because it absorbs all the other colors as perfectly as charcoal or black velvet absorb white light, or rays of all colors.

S. Y.—The difference between mechanical mixture and chemical combination is very strikingly exemplified in the case of gunpowder. The materials for the manufacture of this substance are charcoal, sulphur and niter. These are separately reduced to a fine powder; they are then intimately mixed, moistened with water, and thoroughly incorporated by grinding for some hours under edge-stones; the resulting mass is subjected to intense pressure, and the cakes so obtained, after being broken up and reduced to grains, furnish the gunpowder of commerce. In this state it is a simple mixture of niter, charcoal and sulphur. Water will wash out the niter, bisulphide of carbon will absorb the sulphur, leaving the charcoal as a residuum. By evaporation the niter can be obtained, and by volatilizing the bisulphide of carbon-sulphur will remain. If we attempt to cause these materials to enter into chemical combination the phenomena are entirely changed; a spark fires the powder, a large volume of gaseous matter is produced, the charcoal disappears, and not a trace of the ingredients which composed the powder remains.

INQUISITIVE.—The term fluor spar was given to that substance, owing to its having been found to be such an excellent flux for ores; flux as well as fluor are derived from the same root, *fluo*, to flow; in fact, the last named verb possesses a similar derivation.

The World Moves!

The vignette upon the cover of the *Overland Monthly* is full of meaning. It represents a grizzly bear crossing a railroad track, and glaring savagely at the approaching locomotive. The locomotive is *suggested*,—not outlined; the designer, with exquisite taste, and genuine artist instinct, having left that for the imagination of the reader to do. The true artist as well as the true poet, knows that the pencil as well as the pen is feeble; and that if he can but *suggest*, the fancy will *paint*, in colors far more vivid than any that he can command. The cut is in admirable keeping with the style of the publication. It is perfect as it is;—to have completed the picture in detail, would have given the page a sort of school-geography look. We might, perhaps, remark that the *rails*—but we will not criticise.

The world moves! To give us this for a text,—for that matter,—the very existence, in a city of one score years, of the monthly above-named, in rivalry of its famed Atlantic counterpart, would be sufficient. But the cut aforesaid is our especial inspirer at this moment. That bear, who last week passed over this same ground for the hundredth time, the undisputed monarch of all he surveyed, now for the first time sees the *monstrum horrendum* of civilization rushing across his favorite path. We fancy that we can see, not rage only, but consternation, in his look. One glance is enough for him. He does not square himself to meet the fire-breathing thunderer. Nor yet does he send away with inglorious haste. But stepping deliberately across the rails, he "accepts the situation";—and like a sensible bear as he is, contenting himself with a second and farewell growl, seeks new and more congenial haunts.

Do we realize the position? Do we actually take home to ourselves the facts? Do we consider the difference between '49 and '69? Do those of us who came "the plains across" occasionally get "a little mixed" in our visions of remembered ox-teams,—dust-covered, toiling, sweating, crawling,—as we fancy a passenger train flashing past, and in half an hour's time disappearing beyond that land-mark which we have had in sight for days? Do we ever allow ourselves to think of that tedious journey of twenty weeks as performed in one?

On the 6th inst., the rails were laid over the continental divide between the waters of the Atlantic and the Pacific. A dispatch was sent on that occasion to parties in this city, by Messrs. Colfax, Bross and Bowles, from Benton, at the then end of the Union Pacific track, twelve hundred and forty miles west of Chicago, congratulating their California friends upon the certainty that the two oceans would be linked by rail during the coming year. On this side, the snowy Sierra having been already surmounted, the track-layers are walking along so fast that the town-builders have abandoned in despair all attempts to keep up with them. The "hotel" man would scarcely have time to arrange his little shelf of black bottles, before the "terminus" would be somewhere else,—and his "town" deserted.

The world never before witnessed such a sight as this Continent at this moment presents. Thirty thousand men, in two rival divisions,—each striving to build the greatest number of miles, and thereby to secure the greatest number of almighty dollars,—are at work. Hour by hour the track stretches itself forward into the wilderness. Antelopes run races with the locomotives. Buffaloes have been shot from the car-windows. Savages look on with amazement,—and with faces scarcely more expressive of welcome than that of the grizzly bear which we have introduced to our readers. English sportsmen "run over" across the Atlantic and into the aforesaid wilderness, "just for a lark." There they can hunt wild game, and see live Indians, while they sit at their ease with their cigars and brandy in a comfortably cushioned car. Does not the world move?

For an answer, we need not ask our grandfathers, to whom this coast was almost a *terra incognita;* we need not ask our fathers, who used to talk about "the Northwest Territory;" we need not go back even to our own school-boy days, when we read in "Two Years Before the Mast" of the hide-gathering adventures of R. H. Dana on the California coast. Our own experience here not only shows us that the world yet moves, but that it moves faster and faster as the years roll on. The "Pony Express" was a grand institution in '60. In '61,—eclipsed by the greater glory of the telegraph,—it was forgotten. Even so will the three-week's *journey* to New York by steamer, which took the place of the six-months' *voyage* "around the Horn," soon give place, in its turn, to the seven-days' *trip* by rail. The irrepressible Yankee is always in a hurry; and whatever the rest of the world may do, *he* must move!

INTEREST CONCERNING MINING AND GEOLOGY IN CHINA.—The first thing that the Chinese have demanded from our more tangibly advanced civilization, is the benefit of our acquaintance with mining and geology. When we go back to the darkest ages, we always find that the nations which pursued mining and the working up of metals, were the most powerful, and took the lead of the world. Agriculture followed it up with the comfortable and steady gait of an ox. But the powerful nations dug their strength out of the bowels of mother earth; for, without the metals, it is evident that we would be mere Indians. By trading, other nations not so noted for the production of metals, were enabled to participate in the greatness of their neighbors, but they had necessarily to pay their tribute, and they always stood second. Now, there is no surer index of the intelligence and civilization of the Chinese than this same desire for our assistance in the matter of geology and mining. Pumpelly was engaged by the Chinese Government a few years ago, and McGowan follows in his footsteps. Prof. Blake did similar service for the Japanese, the results of which we would like to have seen given to the public. We can teach our Mongolian *vis-a-vis* everything in that branch of human advancement. It remains to be seen whether we shall not desire similar benefits from the Oriental civilization, as developing in these times another phase of the destinies of history.

PARTIAL DESTRUCTION OF HILL'S SMELTING WORKS.—The new smelting works erected by Prof. Hill at Central City, Colorado, last summer, for the treatment of the refractory ores of that district by the ancient and sure method of submitting them to the manipulation of fire, were nearly destroyed by the same element getting the better of them while the workmen were skimming a charge preparatory to drawing it, in consequence of some sparks rising from the furnace to the unprotected roof. Fortunately the building containing all the valuable machinery was saved, but everything else in the neighborhood was reduced to ashes, except the furnaces and chimneys. Prof. Hill has a Prussian and a Swansea man employed as experts, and the success of his and other similar enterprises will prove of great importance to the permanent development of mining in Colorado.

LEAD AND SMELTING PRODUCTS.—Selby exhibits a great variety of shot and lead pipes, and some smelting products. There are eight different stages of mechanical preparation of the galena represented, principally the results of jigging and buddling; and there is some slag from the furnace; an antomonial lead, product containing silver; and some antimonial oxide derived from the last mentioned, by oxidation of the metallic antimony which was associated with the lead.

Raw Products.

Employments which produce the raw materials of industry—the productive trades—are rural in their character and associations, as they depend on the fertility of the soil, productions of vegetable and animal substances of utility, and the contents of veins and strata. A knowledge of these raw products should be the first consideration in the business of every thinking and reading mechanic, as it is the most essential prerequisite and important attainment for every master manufacturer, whose pursuit consists in working them up or modifying them in such a manner as to supply the wants of society. It is demonstration of the existence of such wants that establishes trades and manufactures. The raw materials are to be found in particular localities, generally in great abundance. Their adaptation brings honors, power and wealth to the thinking adventurer and observer, who, having become familiarized with natures' stores, possesses the practical sense to devise a tangible method of supplying the article exactly where it is wanted. He pays nothing for it; it lies outdoors as the constantly offered premium for intelligence and originality of enterprise; and the capitalist is ever standing ready to pay the necessary expenses provided only that there is evidence to his mind of the presence of the element of practicability—the business world's great desideratum. The adapter then becomes a benefactor. While he acquires a competency, relieving himself from care, and returning to buoyancy of disposition and cheerfulness of countenance—he will not think himself above better people, unless he be morally a fool, and ripe for the correction which pertains inevitably to that situation—the benefit of the products he has presented to the world reduces general inconvenience, and relieves thousands of what, if it were summed up, would be a mountain of care. Such is the constant object, simplified, of all industry and invention. Our field at the gate of the Pacific is not only new and rich in the rewards it holds out, but gold and silver have been scattered over hill and valley, that we may not fail to stumble upon the resources whose development is plainly destined to effect a giant stride for the advancement and extension of our race and civilization.

PROGRESS OF DEVELOPMENT.—In twenty years, the race whose motto is "Westward ho!" has opened up a larger area of territory than has ever before been brought within the range of civilization in anything like the same space of time. Furs and gold have brought us hither. Where agriculture cannot take root, the barren area will be developed by the utilization of a variety of natural products which are known to exist, and which are applicable in large quantities to chemical manufacturing, demanding only cheapness of transportation. Humboldt says: "Wherever metallic veins have been discovered, in the most uncultivated parts of the Cordilleras, on the isolated and desert table-lands, the working of mines, far from impeding the cultivation of the soil, as it is generally imagined, has been singularly favorable to it." Our watered valleys in the sage brush States and Territories will very speedily be garden spots, connected by railroads with important districts which are establishing themselves as great centers for the production of substances which commerce demands from inorganic nature.

THE ANTHRO-PHOTOSCOPE is an optical invention by Rowell and Mills, exhibited up stairs in one of the towers. It gives the effect of the stereoscope from a single picture, associating any given figures with such landscapes as may be selected; and the principles made use of are, the angle of the ordinary line of sight with the level of the ground on which the spectator stands, producing the natural effect we see in objects, the further appearing above the nearer; and the optical association of the figures with other objects in the landscape.

New Publications.

DETERMINATION OF MINERALS AND CHEMICAL SUBSTANCES. A system of instruction in the practical use of the blowpipe, being a graduated course of analysis. By G. W. Plympton, Professor of Physical Science at Brooklyn Polytechnic Institute. Illustrated; 12mo., cloth.

A knowledge of blowpiping is a thing so easily acquired, and of such general application and never-ending satisfaction and amusement to all who are mentally constituted with a desire for simplicity, and for resolving what appears complicated into a few and unmistakable elements, that an acquaintance with its beauties and conveniences cannot be too eloquently advocated. It is one of the nicest and best little inventions that has ever been brought to practical perfection and general application; and, now that we have a good and comprehensive practical book in English, embracing all that can be necessary for those who do not intend to make blowpiping a speciality—a book that will enable any studious miner to analyze the world into its separate chemical elements, as easily as he can separate the sulphurets from the tailings—let those who love to bring their own intelligence to bear in a country so universally interested in mining and metallurgy as California, inform themselves at least of what blowpiping is; and the next step will probably be to buy the book, order a blowpipe, and the few necessary reagents, which are by no means expensive, together with a little cabinet of test minerals and substances for practice. Somebody can be found within reach everywhere, to convey to the inquirer an idea of the simple methods of procedure, whilst residents at the Bay, or in any of the mining centers, will not find any difficulty in procuring a more complete and thorough instruction.

The blowpipe is a universal instrument. With its dozen or so usually accompanying reagents, wet and dry, it embraces all of qualitative chemistry; and it is far more satisfactory and true to the processes of nature, than the ordinary qualitative chemistry in the wet way, as taught, because one can reproduce, by its means, almost every act of Nature itself, to illustrate the formation of natural compounds; as well as separate the elements, and undo the mysterious combination. It places within reach, in one's own chamber, the poetry of alchemy. Become acquainted with the simple metallic and non-metallic substances, and then with their oxides—which are produced by their affinity for and marrying with the virile element of the air, oxygen—and you are at once in possession of the key to the situation. The blowpipe enables us to oxidize, or to reduce by taking away the oxygen, and restoring the metal to its native state, at pleasure; the light blue outer flame oxidizing the yellow flame reducing. We can do everything with it, whilst amusing ourselves for half an hour, which it is possible to do in smelting and assaying. With such instrumentalities at hand, it is stupid on the part of millowners, and culpable on the part of those who claim to be practical experts, to remain ignorant of their application.

The book in question is well arranged as to the order and sequence of the manipulations described, clear and distinct in its manner of putting things, and it contains all the valuable tables which have been compiled from Berzelius down, for reference in the determination of minerals. To those already familiar with the use of the blowpipe, many points of interest will be found in the appendix, containing some of the later contributions to the science by Prof. Chapman and others. For sale by A. Roman & Co.

THE MECHANICS' TOOL BOOK, with Practical Rules and Suggestions for the use of Mechanics, Iron Workers and others. By W. B. Harrison, Associate Editor of the *American Artisan*. Illustrated with 44 engravings, 12 mo, cloth.

This is a very useful and practical book for mechanics, the object of which is to teach the proper use of tools, and also to learn the young mechanic how to provide himself with many useful devices, for simplifying and expediting his work. Close observers will notice a great difference among mechanics in the manner in which they handle tools for doing the same work. An awkward manner in the use of tools, not only makes bad but slow work as well. In any shop, and especially in a jobbing machine shop, the value of man's services often depends largely upon his readiness in adapting himself and the tools to the work before him. The object of this work is to assist the mechanic by suitable hints and instructions to most readily meet all these contingencies. Some seventy different kinds of tools are introduced with many novel modes of applying them. The text is also profusely filled with illustrations. The work contains many facts and suggestions, which may be common place, but all are useful, and the book should be in the hands of every mechanic. For sale by A. Roman & Co., 417 Montgomery street.

(Written for the Mining and Scientific Press.)

The Age of Gold-Bearing Rocks.

BY PROFESSON ROWLANDSON.

(Continued from page 82 of last issue.)

Want of space compelled me to defer noticing instances, in which it is probable that both the volume and value of auriferous rocks existing in strata of the silurian age, would be found greater than if situated in secondary or later formations. Preliminarily, however, I may remark that in the course of the remarks which will follow, it is assumed as a well established fact that all auriferous veins deserving that title, have their origin in plutonic action,* emanating from the nether regions of the earth. If this fact is conceded, and the geological reasons that can be adduced in its favor are more than 100,000 to 1, as compared to what may be stated against such a theory, it must be perfectly evident to the merest tyro in stratagraphy as now well settled by the aids afforded by paleontological evidence, that in all cases where auriferous matter has to be projected or sublimed by igneous agency through paleozoic strata, before it can reach secondary ones and become condensed or fixed in the latter, that the probabilities are great indeed in favor of the view that in such cases the auriferous veins existing in the lower and older rocks should not only be more expansive, but that such veins would also be more thoroughly impregnated with this noble metal. The question, however, arises, does such a case occur, or does it not happen that in those instances, as in California, where some of the most productive gold quartz and pyritous veins, known to history, ancient or modern, are now being extensively worked amongst rocks of secondary age, (cretaceous) that the whole, or nearly so, of the sub-lying paleozoic rocks has, by the same igneous agency, from which has originated the auriferous emanations, been converted into granite, eyenite, diorite, hornblende and cognate igneous rocks? In such a case the so metamorphosed paleozoic rocks would necessarily become the exciting cause and direct medium of producing auriferous veins in the more recently formed and overlying secondary strata; but such an effect could not be brought about but by the entire destruction of the physical properties of such paleozoic rocks as sedimentary ones.

I am aware that Baron Richthofen has written a very elaborate paper relating to the metamorphism of rocks under circumstances analogous to those just suggested, in which Baron Richthofen rather strongly asserts, but as the writer believes on inefficient grounds, that the metamorphism of the older rocks in the manner above indicated, does not take place; this, however, is a debatable point, which a few years discussion will probably set at rest, as well as many others incident to this subject.

The additional space required at the present time on account of the Mechanics' Industrial Exhibition, by the MINING AND SCIENTIFIC PRESS, obliges me to curtail many observations in reference to this subject, some of which, associated with the question of the aqueous or igneous origin of certain metallic minerals, I shall defer to another week.

*Some day I purpose discussing this part of the subject, as well as the origin of metallic ores generally.

CAPTAIN HUTTON, who has been making a survey of Lower Waikato district, on the north island of New Zealand, reports that there is no prospect of alluvial gold there, but that tertiary coal exists, which is similar to cannel coal, in a bed containing 140,000,000 tons, and which can be worked without pumping.

TO NORTH OF US.—The people of Vancouver Island and British Columbia have been rather in a dispirited mood, on account of the slowness of the development of their really attractive shores, and have only taken heart at the increased production of gold from Cariboo during the present season. Many wide-awake Britons have come to San Francisco and gone into business here, and a great many more talk about getting out of the country. Lumbering and coal mining, however, are tolerably prosperous. Great efforts have been made to impress upon the home government the importance of building a transcontinental railroad from Canada; but there is really no hope that it will ever be done until a very largely increased population, and forty or fifty years more of development shall demand it.

SMELTING ARGENTIFEROUS GALENA.—Cottonwood Cañon is about 27 miles southeast from Salt Lake City, in the Wasatch mountains. It contains several mines. A Mr. Hirst is running two furnaces there at present, not on an extensive scale, but the results are satisfactory. Hirst thinks his ore will yield $200 to the ton. He has a German to manage his works who is reputed to be skillful. The veins occur in limestone, and ore exists at the surface in abundance. This is a valuable lead-mining district. The ore is remarkably free from antimony.

WANTED—At this office, the postoffice address of Enraght Massey, late of Gold Hill, Nevada.

NOTICE.—Persons interested in locating Mineral Lands in California or Nevada, will do well to observe the advertisement of N. Wescoatt, S. & M. E., in another column.

CO-OPERATIVE UNION STORE.—This is becoming one of the most useful Institutions in the city, and the Mechanic and Laboring Man fully appreciate it. They are now enabled to buy their Groceries and Provisions 20 per cent. cheaper than ever before, and the very best articles in the market. The store is located at 115 Sutter street, Lick House Block, San Francisco. 6v16-aim

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WHEREAS, It is asserted that a certain individual now in this city will put up $5,000 against the same amount, that he can pick the Bussey Lock in eight hours' time; but makes Bussey this generous proposition: That he does not wish to injure him in any way, and if he will pay a certain amount of money the Lock will not be exposed. Wants Money, is in the market at the highest bidder!

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must obtain a License for the same from the undersigned, or they will be subject to the penalties of the law.
H. S. SMITH,
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What they are;
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And How Worked;
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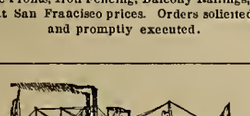
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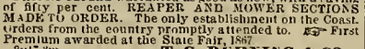
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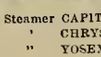
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THE MINING AND SCIENTIFIC PRESS comes to us this week in a new dress throughout, much improving its appearance. The PRESS is one of our most valuable exchanges, and fills a place in mining and scientific matters never attained by any other journal.—*Colorado Miner.*

[From the Mechanics' Fair Daily Press.]

WHAT IS WANTING.—As new articles are still floating in at the rate of a hundred entries a day, not counting those that are lugged in without asking the entry clerks to record them at all, it is not easy to judge, at the present time, of the nature and extent of the blanks which may be found in the representation; though it is believed that there will be nothing essential wanting. Criticisms will of course be made as to what might have been, or ought to have been different, or better, but we may rest content, and pleased, with things as they are. A better show might have been made, for example, in the Art Gallery, if some of the fine productions particularly characteristic of the coast and times, in the possession of private individuals, had been brought out instead of some uninteresting square rods of photographs; but as there is still room left on the walls, it is to be hoped that the public will be gratified with something additional in that most interesting and effective branch of instruction at the Fair. Ores, too, are thus far observed to be slighly represented; but we can better dispense with them in the presence of Mr. Kustel's fine collection of minerals, which is scientifically arranged, and embraces in perfection every ore that is found on this coast, or anywhere else. Specimens interesting on account of their splendor, richness or uniqueness, would add greatly to the attractions of the mining and geological department in the eyes of the mass of visitors.

THE EXHIBITORS.—Somebody has remarked that the Exhibition is a big advertising concern. The man was a cynic, and yet he very aptly told one side of the truth. Such advertising is legitimate, and it is most creditable to the wide awake business men, who goes to great expense, and volunteers a month of trouble and care for the amusement and instruction of the public in his specialty, in order that they may know what advantages can be derived from availment of that which he offers. It is all open and above board; the exhibitor is not afraid of comparison with all the world beside. That is sufficient evidence in the first place that there is no humbug in his dealing. He meets you on the broader basis of the good of the community, and he has bet the amount of his expense and trouble that he will be able to prove to you that he can benefit you more than you can ever benefit him in purchasing of him, by just the difference between his little profits and the price you pay. He is ready to become acquainted with you, and to interest you in the details of the branch which he fully understands. A thousand able instructors,—better than professors, because they understand thoroughly without professing much of anything,—are standing in readiness at the Exhibition, with agreeable address and command of language, to teach you in an attractive manner, by personal lecture, the ancient classic conversational method of instruction, almost everything that can be of interest to you. Three dollars is a small price to put you through our University—it is only to pay for the roof. Read the FAIR PRESS, and introduce yourself to our amiable professors. The only danger is that you will not devote enough time to the matter.

SOMETHING NEW.—Messrs. Swyney and Smith, engineers and draughtsmen, have made a novel and lively addition to the fountain, suggested by observing that a current of air is produced by the falling of the water therein. The idea has been developed into what may become a useful invention, to be styled the Aquatic Wind Mill, which it is thought may be made valuable for drainage, irrigation, and other purposes. The services of the MINING AND SCIENTIFIC PRESS PATENT AGENCY have been secured to obtain a patent for the same.

WHAT, AND WHEN.—If you want to study things, go to the Exhibition in the morning, when you will find all the exhibitors at leisure and in a mood to do business. If you wish at the same time to meet everybody in the exhibiting and business line, go in the afternoon. To study human nature you must go in the evening. Seat yourself near the fountain.

STATE AGRICULTURAL FAIR AT SACRAMENTO.—The Fifteenth Annual Fair of the tate Agricultural Society will be opened a the 15th of next month—in four weeks om this—or about the time of the conlusion of the Mechanics' Institute Fair. iberal premiums are offered for live stock, achinery, implements, textile fabrics, ill and domestic products, agricultural roducts, fruits, and fine arts. Preparaons are already under way by the enterrising people at Sacramento.

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THE FOUNTAIN.—The spray at the Pavilion fountain rises to the roof, nearly the same hight as the level from the hill side from whence the water is drawn. If the pipes leading down to the spot were interstices between layers of rock, it would be called an artesian well. In the oil wells, however, there is a gas which forms spontaneously, fills up all the spaces, and then presses up the fluid, sometimes to an enormous hight.

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Why, 'tis a cockle for a walnut shell,
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Away with it! come let me have a bigger!"
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1. *The Dressing.*—Dressing of Ores; Principles of Dressing; Division of Dressing.
2. *The Separation.*—Separation of Gangue from Ore in the Mine; Dressing of Ores outside the Mine; Separation by Hammers; The Ragging; The Spalling; The Cobbing; Separation by Hand; The Picking.
3. *Cleansing and Sizing Contrivances.*—Washing and Sizing; Stationary Apparatus; The Sluice; The Kiln; The Step Sluice; Movable Machines; The Hand Riddle; The Rocker; The Circular Hand Riddle; Swinging and Jarring Riddles; The Jarring Riddle.
4. *Rotary Sizers.*—The Trommel or Drum; Cylindric Trommel; Prismatic Trommel; Conical Trommel; Combined Trommel; The Sifting Wheel; Sizes of Grains for Jigging.

II.—REDUCTION.

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7. *Reduction by Rolling Mills.*—Construction of Rollers; The Frame; Feeding of Rollers; Remarks.
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9. *Pans with Plane Mullers.*—The Common Pan Grinders; Tub Grinder; Bartolo's Grinder; Knox's Pan; Varnoy's Pan; Wheeler's Pan; Union Grinder; Moore's Quartz Grinder; Gashn's Grinder.
10. *Pans with Conical Mullers.*—Hepburn & Peterson's Pan; Belden's Pan; Baux & Guiod's Grinder.
11. *Pans with Tractory-Conical Mullers.*—Excelsior Pan; Wheeler & Randall's Pan; Excelsior Continuous Grinders.
12. *Pans with Perpendicular Mullers.*—The Confugal Ore Grinder; Varney's Quartz Grinder.

III.—CONCENTRATION.

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Jigging Principle; The Jigging.
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B. *Concentration of Ore Sands and Slimes*
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IV.—SPECIAL CONCENTRATION.

1. *Concentration of Gold Ores.*—Concentration of Gold Ores; Amalgam of Gold Quartz; Amalgamation and Grinding; Combined Concentration and Amalgamation; Treatment of Concentrated Stuff.
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3. *Concentration of Lead and other Ores.*—Concentration of Lead, Copper and other Ores; Value of Ores for Concentration.

V.—CHLORINATION.

Extraction of Gold from Sulphurets or Arseniuals by Chlorination; Assay of Gold Sulphurets by Chlorination; Chlorination Process for Sulphurets; Loss of Gold in Roasting; Single Roasting Furnaces; Double Furnaces; Mechanical Furnaces; The Roasting Operation; Roasting with Salt.

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Names.	No. Certificate.	No. Shares.	Amount.
Buzzolini, O.	11	30	$150 00
Buzzolini, D.	29	4	20 00
Chevesich, E.	32	1	5 00
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Moshelmer, Jos.	56	25	125 00
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Smith, R.	86	5	25 00
Quin, Thos.	85	5	25 00

And in accordance with law, and an order of the Board of Trustees, made on the ninth day of July, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by John Middleton & Son, No. 310 Montgomery street, San Francisco, California, on Monday, the thirty-first day of August, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN F. LOHSE, Secretary.
Office, 318 California street, up-stairs, San Francisco. au15

I. X. L. Gold and Silver Mining Company.—Location of Mine: Silver Mountain District, Alpine County, California.

NOTICE.—The Annual Meeting of the stockholders of the I. X. L. Gold and Silver Mining Company, for the purpose of electing Trustees for the ensuing year, will be held at the office of the Company, Pioneer Hall, Montgomery street, San Francisco, Cal., on THURSDAY, September tenth, 1868, at 2 P. M.

au15 J. CROWNINSHIELD, Secretary.

Mining Notices--Continued.

Adriatic Gold and Silver Mining Company, Flowery District, Storey County, Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the twentieth day of May, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificates.	No. Shares.	Amount.
M J Newmark	507	30	$ 40 00
N Lunling	98	50	50 00
Thomas Russell	114	10	10 00
Estate of Henry Dreschfeld	190	10	10 00
Estate of Henry Dreschfeld	302	176	176 00
Estate of Henry Dreschfeld	324	25	25 00
Estate of Henry Dreschfeld	393	5	5 00
Estate of Henry Dreschfeld	427	61	61 00
Estate of Henry Dreschfeld	466	50	50 00
Edward Cohn	491	25	25 00
J L Schroeder	428	75	75 00
H Schmidt	492	5	5 00
H Schmidt	494	5	5 00
H Schmidt	494	10	10 00
J J Robbins	489	10	10 00
J J Robbins	490	10	10 00
J J Robbins	506	5	5 00
J S Burgess	513	50	50 00
M Waterman	509	30	30 00
R W Kind	440	5	5 00
R W Kind	441	10	10 00
R W Kind	479	10	10 00
B Gattel	352	10	10 00
B Gattel	359	10	10 00
B Gattel	360	10	10 00
B Gattel	538	10	10 00

And in accordance with law, and an order of the Board of Trustees, made on the twentieth day of May, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the sales room of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on the sixteenth day of July, 1868, at the hour of 11 o'clock A. M. of said day, for cash, in U. S. gold coin, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

PAUL NEUMANN, Secretary.
Office, No. 411 California street. jy4

POSTPONEMENT.—The above sale is hereby postponed until Friday, the thirty-first day of July, 1868, at the same hour and place. By order of the Board of Trustees.

PAUL NEUMANN, Secretary.
San Francisco, July 14, 1868 jy18

POSTPONEMENT.—The above sale is horoby postponed until Monday, the seventeenth day of August, 1868, at the same hour and place. By order of the Board of Trustees.

PAUL NEUMANN, Secretary.
San Francisco, July 31, 1868. aut

Bear River Mining Company, Nevada County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the tenth day of June, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. shares.	Amount.
A G Pier	1	50	$50 00
Wesley Henderson	2	50	50 00
W J Stringer	3	50	50 00
H McCormick	not issued	662	662 00
C Jones	not issued	662	662 00

And in accordance with law, and an order of the Board of Trustees, made on the tenth day of June, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, on the seventeenth day of August, 1868, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. BUFFINGTON, Secretary.
Office, Room 37 Now Merchants' Exchange, California street, San Francisco. au1

Office of the Folsom Street and Fort Point Railroad and Tunnel Company, southwest corner of Montgomery and California streets, Room No. 16, San Francisco.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-eighth day of July, 1868, an assessment of five dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to Caleb T. Fay, Esq., at the office of the Company.

Any shares of stock upon which said assessment shall remain unpaid on the twenty-ninth day of August, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fourteenth day of September, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

au1 JOS. M WOOD, Secretary.

Gold Hill Tunneling Gold and Silver Mining Company.—Location: Gold Hill Mining District, County of Storey, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of July, 1868, an assessment (No. 10) of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, H. Wegener, 414 California street, San Francisco, Cal., or to the Superintendent, H. Huguet, Gold Hill, Nevada.

Any stock upon which said assessment shall remain unpaid on the twenty first day of August, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the ninth day of September, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. WEGENER, Secretary.
Office, 414 California street, San Francisco. Jy25

Hope Gravel Mining Company. Location of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of July, 1868, an assessment (No 25) of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at his office, No. 533 Kearny street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on Thursday, the tenth day of September, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fifth day (5th) of October, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary.
Office, No. 533 Kearny street, corner of Sacramento, San Francisco, California. Office hours from 12 to 2 P. M. aut

Kearsarge Mining Company, Kearsarge District, Inyo County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of August, 1868, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, No. 408 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the fourth day of September, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-first day of September, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINGARD, Secretary
Office, 408 California street, San Francisco. au8

Rattlesnake Gold and Silver Mining Company, Brown's Valley, Yuba County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventh day of August, 1868, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, 318 California street, up stairs, San Francisco.

Any stock upon which said assessment shall remain unpaid on the tenth (10th) day of September, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-eighth day of September, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary.
Office, 318 California street, San Francisco, Cal. au8

Silver Sprout Mining Company.—Location of Works and Mines: Kearsarge District, Inyo county, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of August, 1868, an assessment of thirty dollars per share was levied upon the capital stock of said Company, payable immediately in United States gold coin, to the Secretary, at the office of the Company, 408 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the fourth day of September, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-first day of September, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINGARD, Secretary.
Office, 408 California street, San Francisco. au8

Office of the Silver Sprout Mining Company, San Francisco, August 4th, 1868.

STOCKHOLDER'S NOTICE.—In accordance with a resolution adopted at a meeting of the Board of Trustees of the Silver Sprout Mining Company, held this day, a special meeting of the Company is hereby called, the same to be held at the office of said Company, No. 408 California street, San Francisco, California, on Monday, the thirty-first day of August, 1868, at one o'clock P. M., to take into consideration and decide upon the proposition to increase the capital stock of said company from two hundred and fifty thousand dollars, divided into two hundred and fifty shares of one thousand dollars par value each, the present capital stock of the Company, to three million five hundred thousand dollars, to be divided into five thousand shares of seven hundred dollars par value each.

NATHANIEL PAGE,
A. WINGARD,
E. B. MOTT, JR } Trustees.
au8-1m

Machinery.

VARNEY'S PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Settlers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the **PACIFIC FOUNDRY,**

1v1 San Francisco.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077

3v13f SAN FRANCISCO.

Notice to Miners, Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG,

8v13-1y Stove Store, No. 125 Clay street, below Davis.



REMOVAL.

E. O. HUNT'S

Manufactory of

Windmills, Horse-Powers and Pumps,

Has been removed from the old stand on Second street, to

114 and 116 Spear st.,

Next above Stuart and south of Mission st., San Francisco.

Hunt's Patent Wind-Mills, Tread Horse-Powers, Sweep Horse-Powers, (for one or four horses), Sawing Machines, Pumps of all kinds for shallow or deep wells,—including Hunt's Submerged Pump, Hunt's Globe Pump, and Hunt's Single and Double-Acting Pump.

Pumping Machines and general Machinery kept constantly on hand and built to order.

Also, Water Tanks of all sizes.

Having put up large new buildings specially for my business, with greatly increased facilities in the way of room and steam power, I shall be able to build everything in my line at greatly reduced rates.

All desirous of procuring water for irrigating or other purposes, are invited to examine my articles before purchasing elsewhere.

23v16 **E. O. HUNT, Proprietor.**

OIL STOVES!

MORRILL'S

Petroleum and Universal Oil Stoves

Have proved themselves a superior substitute for Wood and Coal Stoves, in that they work quicker, are neater, bake and broil better, are MORE ECONOMICAL generally. They are portable, can be used in any room, with or without chimney, as they emit no smoke, soot or ashes. There are nine different sizes, designed for barbers, dentists, and other mechanical purposes—as well as for cooking. They are perfectly safe.

I now offer a reward of **$100** for every Petroleum Stove exploded by Naphtha delivered at my store, 18 Geary street, where they are for sale by

M. O. GULLARD,

Proprietor of Petroleum Stove for California, and Agent for Universal Oil Stove for Pacific Coast.

N. B.—Petroleum Stoves burn Naphtha converted into a gas. Universal Oil Stoves burn Naphtha, Benzine, or Coal Oil, with non-illuminating flame and light on a wick as easy as a lamp. 21v16 3m

OILS! OILS! OILS!

MACHINE OILS OF ALL GRADES,

Pure Lard Oil,

SPERM OIL, PARAFFINE OIL, Etc., Etc.

EXCELSIOR MACHINE OIL,

The Best in use.

A. C. DIETZ & CO., Sole Agents

519 and 521 Front street, San Francisco.

22v16-3m

Fire, Hose and Machine Belting.

THE SUBSCRIBER CONTINUES TO MANUFACTURE Oak Tanned Leather Fire Hose, warranted superior to Eastern Hose, manufactured at the Sixth Street Tannery, San Francisco.

21v16tf JOHN J. FULTON.

GLASGOW

Iron and Metal Importing Company,

Nos. 25 and 27 Fremont street,

SAN FRANCISCO,

Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings, which they offer to the trade on liberal terms.

21v16-3m W. McCRINDLE, Manage.

Belting and Lacing.

AN ENTIRELY NEW AND SUPERIOR ARTICLE OF exclusively mechanical preparation, made to order on short notice, and for sale by H. ROYER, at 435 Brannan street, between Third and Fourth. Refers to Eisen Bros., Pioneer Mills; Martin Stein, National Mills; Horace Davis, Golden Gate Mills; also, N. W. Spaulding, Saw Manufacturer. 6v16-3m

NELSON & DOBLE,

AGENTS FOR

Thomas Firth & Sons' Cast Steel, Files,

Etc., Shear, Spring, German, Plow, Ellster and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks,

Stone Cutters', Blacksmiths' and Horse-Shoers' Tools,

319 and 321 Pine Street,

Between Montgomery and Sansome. San Francisco.

10v14qr

Brodie's Patented Improvements



[FOR THE TREATMENT OF

Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:

No. 1—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price..... **$600**

No. 2—Or 15-inch Crusher, capable of similarly pulting through five to six tons per hour..... **850**

No. 3—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour..... **1,200**

These Crushers have been erected at several mines in the State of Nevada, and others in Calaveras, Tuolumne and Mariposa counties, to whom applicants can be referred as being the most efficient, cheapest, and least weight compatible with strength and durability, of any Crusher yet erected.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.

JAMES BRODIE, Fulton Foundry, or
CHARLES RADCLIFF,
Express Building, 402 Montgomery street,

12v13tf San Francisco.

C. F. TRAVIS,



Manufacturer of

FRENCH BURR Mill-Stones,

AND

PORTABLE MILLS.

Agent for

Dufour & Co's

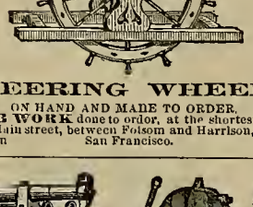
Celebrated

DUTCH ANCHOR BOLTING CLOTHS.

Mill Picks, Mill Picks Dressed, Mill-Stones Repaired and Rebuilt; Mill-Stones Balanced with Fellenbaum's Patent Balance, of which I am sole Proprietor for California, Oregon, and Washington Territory. C. F. TRAVIS.

5v16tf 109 Mission street, San Francisco.

ROBERT BRAGG,



STEERING WHEELS

ON HAND AND MADE TO ORDER.

☞**JOB WORK** done to order, at the shortest notice. Main street, between Folsom and Harrison,

23v16-3m San Francisco.



Standard Milling Machine.



Pipe Vise, with or without Extra Jaw.

UNION VISE COMPANY,

OF BOSTON,

Make Vises of all sizes and kinds, for Machinists, Blacksmiths, and all other heavy mechanical work. Wood-workers' and other Vises, with Covered Screw, for general mechanical work. Standard Milling Machines, very simple and easily adjusted. Address, Boston, Mass. 23v16-1y

Delays are Dangerous.—Inventors on the Pacific Coast should bear in mind that by patronizing our Patent Agency they can sign all necessary papers for securing patents almost immediately, thereby avoiding the three month's delay requisite in transacting business through Eastern agencies.



THE FLORENCE

RECEIVED THE HIGHEST PREMIUMS

At all the most important Fairs held in the United States in the year 1867. Gold Medals at the American Institute Fair, New York; Mechanics' Association Fair, Lowell; Maryland Institute Fair, Baltimore. Highest Premium at the New York State Fair, Buffalo, and at the Great New England Fair, Providence. At the Fairs held on the Pacific Coast, this machine has taken

Every First Premium

Awarded on Family Sewing Machines in the LAST FIVE YEARS. If there is a Florence Machine within one thousand miles of San Francisco, that is not giving entire satisfaction, if I am informed of it, it will be attended to without express charge or expense of any kind to the owner.

SAMUEL HILL, Agent.

11v16-4m 111 Montgomery street, San Francisco.

American Saw Company.



MANUFACTURERS OF

EMERSON'S PATENT

Movable-Tooth and Perforated Circular Saws,

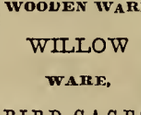
Perforated Mulay, Mill and Cross-Cut Saws, with Adjustable Sockets.

SAW-GUMMERS, SWAGES, CANT DOGS,

Etc., have established an office for the sale of the above articles, at

No. 606 Front street, San Francisco.

☞Descriptive Pamphlets will be forwarded to any one giving us their address. 5v17tf



STOVES

AND

TIN WARE,

WOODEN WARE

WILLOW WARE,

BIRD CAGES,

Etc., Etc.



Lock's Patent Self-Lighting Gas-Burners, by

GEO. H. CHICK,

At 834 Market street, San Francisco.

24v16-3m

Fire and Marine.

Union Insurance Company,

OF SAN FRANCISCO.

Nos. 416 and 418 California Street.

Cash Capital (U. S. Coin).....**$750,000**

THE CALIFORNIA LLOYDS

Having consolidated with the Union Insurance Company, January 1, 1866, are now prepared to effect

Marine as well as Fire Insurance,

upon the most favorable terms.

☞Losses promptly and equitably adjusted and paid in Gold Coin.

GUSTAVE TOUCHARD, President.

CHARLES D. HAVEN, Secretary.
GEO. T. GOREN, Surveyor. 21v16-1amtf

California Labor and Employment Exchange

319 Battery Street, San Francisco.

MINING COMPANIES, MANUFACTURERS, CONTRACTORS, and employers of all descriptions of labor, are requested to send their orders to the Exchange at once.

19v16-3m H. C. BENNETT, Secretary.

[From the Mechanics' Fair Daily Press.]

All to the Fair.

There is every reason to believe, from the auspicious opening, that the Fair will be a more complete and imposing exposition of the industry of the Pacific Coast, than has ever before been witnessed; for which reason the farmers and mechanics, and all others from every section of the Pacific Slope, should make it a point to be present. It will be to them better than a Paris Exposition, for it will be a representative of their own industry, presented almost at their very doors; and one to which they can bring their wives, their sons and their little ones, at but a trifle more than an ordinary holiday's expense. The collections they will see will inspire their industry and stimulate their zeal for years to come. The various departments of the Exhibition are replete with every legitimate object of attraction. The finest specimens of field produce, as well as of the garden and dairy, with the latest and most approved machinery for producing the same, will interest and instruct the farmer. The mechanic and artisan will find almost every class of machinery and every species of manufacture; while the lover of the fine arts can spend days and weeks, if he chooses, in gazing upon and contemplating works of real merit, in every department of that elegant branch of human industry and genius.

A man's own eyes are his best educators; there is nothing like bringing together the farms, the workshops and the art galleries of a people into one common center, where each can study and observe what progress the other has made. He must be a stupid dunce who fails to profit by such an exhibition; and the mechanic or artisan who neglects to put his handiwork in competition with his neighbor's, either from lack of energy or fear of the test, should be avoided as one certainly not up with the times, and unworthy of public patronage.

For the time being, this Exposition is the great industrial school of the Pacific Coast, the representative embodiment of the skill, energy and enterprise of our people. Let our friends, both in the city and interior, devote a good week to its examination and study. Depend upon it, you will profit in health and purse, and it will tell upon your work and plans for the ensuing year. Be up and alive to the progress of the age. The time to prosper by mere work, without intelligence, has gone by. The best source of intelligence is art teaching—a personal comparison of ideas and systems; a careful view of methods and results of distant, yet related employments. Routine cannot even hold its own—it degenerates, loses interest, becomes effete. California is no place for such a condition of things—such a class of people. Our people are a live people; they encourage home industry; they study to excel in all things that are good and profitable. They raise the finest wheat, the largest and best vegetables, the most delicious fruits; they make the best and most improved machinery for the purpose in view; they believe in competition; encourage and patronize fairs of every description. In short, they are up and alive, a little ahead of the times, and enjoy the greatest degree of genuine prosperity of any people on the earth.

JAS. G. STEELE & CO.,

Chemists and Apothecaries,

Manufacturers of Steeles' Proprietary Preparations, Mineral and Soda Waters, and importers of Pure Drugs, Chemicals, Patent Medicines, Colognes, Soaps, Brushes, Perfumes, etc.

List of Steele's Proprietary Preparations:

Oleocolein, Wine of Pepsine,
Amantine, Saponaceous Tooth Powder,
Florentine Tooth Wash, Devine's Cough Lozenges,
Glycerine Lotion, Rosemary and Castor Oil,
Orientale for the Hair., Steele's Bay Rum.
Cold Cream of Roses, Steele's Cologne,
Solution and Granules of Citrate Magnesia.

JAMES G. STEELE & CO.,

521 Montgomery street, between Clay and Commercial, San Francisco.

☞For sale—the Celebrated Electro-Silicon Polish.

To Inventors.

The undersigned is now prepared to assist inventors or others by manufacturing Models for the Patent Office large working Machines or Devices of every description in Metal or Wood, in the most workmanlike manner and reasonable rates. Also, Patterns for Iron and Brass Work and all kinds of Machinery.

Having had ten years practical experience in this city parties can be assured all work entrusted to me will be executed in a prompt and satisfactory manner. Power will be granted to parties wishing to test or experiment with machinery.

☞Full files of the Patent Office Reports for the use of patrons. **J. H. CULVER,**

5v17-3m **20** Fremont street, over Phœnix Iron Works.

A North Carolina Gold Mine.—The Baltimoro *Commercial*, June 27th, says: Messrs. F. W. Bennett & Co., auctioneers, sold yesterday, at the Exchange salesroom, all the property of the Baltimore and Montgomery Mining Company, better known as the Steele gold mine, on the Uabavie river, in Montgomery county, North Carolina, containing about seven hundred acres of land, with all its equipments, consisting of two steam engines—one of 10-horse and the other 25-horse-power—pumps, two round buddles, (16 feet diameter) three washers, (with rockers and sluice bores) buildings for office, barn, stables, blacksmith shop, with about twenty small houses for miners, etc. This mine is developed to a depth of upwards of 150 feet. The vein is composed of argillaceous slate, and forms an auriferous bed of from ten to twelve feet in thickness, carrying string veins of free gold in its center. Purchased by W. S. Raynor for $11,000.

CALIFORNIA TRUST COMPANY,

OF SAN FRANCISCO.

Office, No. 421 California street,

Hayward's Building, next to Merchants' Exchange.

Capital One Million Dollars.

Bank of Deposits and Loans.

Accounts Kept, subject to Check or Drafts.

Correspondent for Banks and Bankers.

INTEREST ALLOWED ON DEPOSITS & TRUST FUNDS

Money Loaned only on Good Securities.

Safe Depository for Bonds, Stocks, Jewelry, Silverware, Etc.

Collections and Disbursements Promptly made.

The Company will hold Powers of Attorney and transact business as Agent, Trustee, Receiver, Executor, Administrator, Guardian, Treasurer and Assignee. Investment made for parties in Real Estate, Public Securities, Local Stocks and other property.

OFFICE HOURS—FROM 9 A. M TO 4 P. M.

Trustees:

Henry H. Haight,	John Currey,
John H. Baird,	John O. Eldridge,
Henry Barroilhet,	William H. Sharp,
Frederick L. Castle,	Jacob C. Johnson,
Walter N. Hawley,	Charles J. Deering,
Donald McLennan,	Hiram Rosekrans,
Charles F. MacDermot,	Andrew J. Cogbill,
Moses Rosenbaum,	Charles M. Plum,
Henry J. Booth,	Samuel Crim.
Chas. W. Dathaway.	Walter B. Cummings.

HENRY L. DAVIS, President.

CASHIER, D. W. C. THOMPSON. AUDITOR, THOMAS B. LUDLUM.

HAYWARD & COLEMAN,

IMPORTERS AND REFINERS

—OF—

Illuminating, Lubricating,

—AND—

PAINT OILS,

CONSISTING OF

KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS, NEATSFOOT, BOILED AND RAW LINSEED, CASTOR AND CHINA NUT.

—ALSO—

Spirits of Turpentine and Alcohol.

NOTE.—We would specially call the attention of Mill owners and Engineers to our superior PARAFFINE OIL, which we manufacture from the California Petroleum. This oil will not gum. Machinery thoroughly cleaned and lubricated with it will not heat, and after remaining at rest, can be started without cleaning off.

Lamps and Lamp Stock!

☞ A sample can of our Paraffine Oil will be forwarded on application to us, as we desire a fair and impartial trial. ☞ an elegant and complete assortment on hand.☜

5v17-tf. 414 Front street, San Francisco.

BUERK'S

Watchman's Time Detector.

THIS WATCH-CLOCK WAS INTRODUCED TO THE public in almost every section of the United States and Canada about five years ago, and it has proved itself to be the best invention in the world for testing the faithfulness of Watchmen. Since its introduction, the Proprietor has improved on some parts, and corrected deficiencies and he has now

A Perfect Check upon the Watchman.

With other Clocks, a regular routine has to be followed, but with this a Watchman can be ordered to visit any particular place as often as required, without being compelled to go to places where it is not necessary to visit as often.

The instrument is complete in itself, portable, and as reliable as the best lever watch.

It is not so likely to become disarranged in its works as a good watch, because its parts are stronger. But when it needs cleaning, any common watchmaker can adjust it, its mechanism being simple. It requires no fixtures or wires communicating from room to room, as is the case with the ordinary Watch-Clocks; a small, inexpensive stationary key is alone required at each station. By its use places can be guarded that it would be impossible to guard with any other instrument, such as Railroad Tunnels, Bridges, Yards, Ships, etc. The instrument will in all cases be warranted perfect and satisfactory. Its price is invariably *Seventy-five Dollars*, cash on delivery, including as many keys as are requisite, not exceeding twelve.

THIS WATCH-CLOCK IS SOLD AT A LESS PRICE THAN ANY OTHER IN THE MARKET.

The DETECTOR is used extensively by large Manufacturing Establishments and Railroad Companies in the United States, from whom numerous testimonials have been received.

☞ This Detector is covered by two U. S patents. Parties using or selling these instruments without authority from me will be dealt with according to law.

N. B.—Parties purchasing these Clocks should test them sufficiently in the counting-room or office, as they will not be taken back after having been injured by the Watchman through carelessness.

All communications promptly attended to. Address

J. E. BUERK, Proprietor,

47 Congress street, Boston.

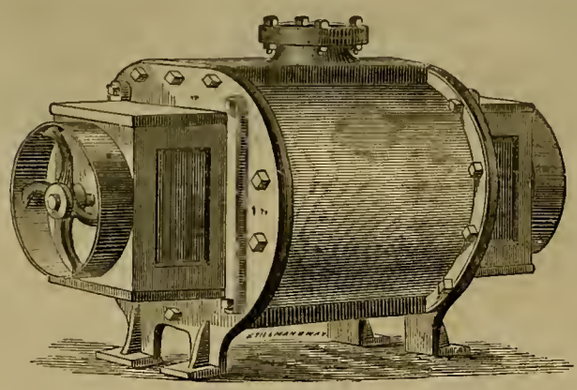
☞P. O. Box, No. 1057. 23v16-6m

ELECTROTYPE CUTS, ENGRAVINGS, ETC.—Our Job Printing Office is abundantly supplied with elegant engravings, ornaments, and other embellishments to suit the various branches of industry in this State

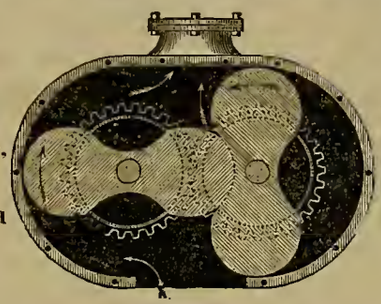
ROOT'S PATENT FORCE BLAST ROTARY BLOWER.

Patented Nov. 1st, 1864; July 24, 1866; and Oct. 9, 1866.

Awarded the First Premium at the Paris Exposition.



ADAPTED FOR **Smelting, Foundry, Mining and Steamships.**



REQUIRES **Fifty Per Cent.** LESS POWER **Than any Blower** now in use.

One of these Blowers may be seen on exhibition at W. T. Garratt's Brass Foundry, corner of Mission and Fremont streets. They are also in use at the Almaden Quicksilver mine; Gridley's Foundry, Gold Hill, Nevada; Ætna Iron Works, San Fraacisco, and many other places.

CAUTION.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.

For Circulars and further information, address

KEEP, BLAKE & CO.,

4v16 3m Globe Iron Works, Stockton, Cal.

HO TEAMSTERS!

CONTINUE TO

USE HUCKS & LAMBERT'S

CELEBRATED

H & L Axle Grease,

To which you have given so decided a preference for the last

FOURTEEN YEARS,

It is the only reliable article

IN THE MARKET

Every care will continue to be used to sustain the high reputation the H & L Axle Grease, has so long and justly attained.

☞Be sure and ask for the H & L brand, and see that the

TRADE MARK H & L

IS ON THE COVER OF THE PACKAGE

NONE OTHER IS GENUINE.

FOR SALE IN EVERY STATE IN THE UNION.

M. M. COOK & SON.



Hose and Belting.

Fire, Hydraulic Hose and Leather Belting, made of the heaviest and best quality of Oak-tanned Slaughter Leather. Also, Fire Buckets, Suction Hose, etc. Our Belting is well stretched, cemented and warranted to run true, and our Hose guaranteed to give satisfaction. A large assortment always on hand and orders promptly filled. No. 801 Battery street, San Francisco. 13v16-3meow

SWAIN'S PATENT

Anatomical Boots

AT TEN DOLLARS PER PAIR.

Having received lately from Washington a patent for his new invention in Lasts, he is now prepared to make and sell as good Boots as the world can produce, at the above named price. A liberal discount will be given to the trade.

J. H. SWAIN,

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TO SPORTSMEN.



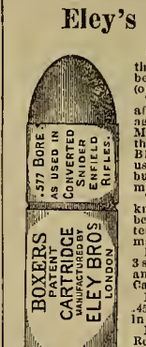
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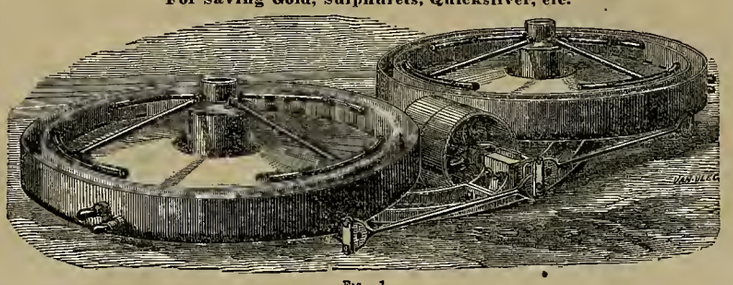


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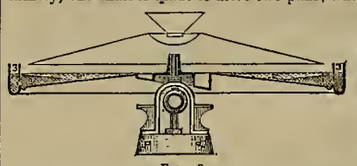


Fig. 2.

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BY DEWEY & CO., Patent Solicitors. SAN FRANCISCO, SATURDAY, AUGUST 22, 1868. VOLUME XVII. Number 8.

THE LESSONS OF THE FAIR.—The lessons of the Fair are many and important. We might devote columns thereto, with profit and instruction to all. During a visit in the daytime, when the great evening throng is absent, and the visitors so few that one can study their countenances and movements, one thing most especially strikes the attention of every thoughtful beholder,—the quiet, earnest character of the people. There is no rabble there, intent on excitement; no noise or boisterous conversation falls harshly upon the ear. The lovers of order and law, and the thoughtful workers of the land are there—gathered together to see some new thing, to learn some important fact which has not hitherto broken upon their mental vision; to see, hear and learn that which shall lift them higher and still higher as men and women. The work—the legitimate work of the Fair—the showing and seeing and learning is now fairly begun. About everything is now in its place; the spacious Pavilion is full of the representative industry of the land, and men and women and children are, day by day, quietly but earnestly busy in receiving and treasuring up the lessons which are the legitimate object of such a display.

THE ROCKY MOUNTAIN MINES IN EUROPE. Some leading mine-owners of Central City, Colorado, took the trouble to get up a splendid exhibition of their rich ores at Paris, last summer, which compared so favorably with the minerals from other countries on exhibition there, that the French Government authorized one of the Professors of the *Ecole des Mines*, Simonin, to visit the Rocky Mountains, and report the results—which have been looked for in the *Journal des Mines*, but have not yet appeared. Simonin arrived at Central City in company with J. P. Whitney, a Bostonian mining operator, who has identified himself with that section, about the time or soon after the close of the Exposition last Fall, and was received with great distinction by the miners and capitalists there, who have been forced to look for every assistance that practical and scientific experts, from whatever source, can afford them in the reduction of their mixed and difficult ores of gold and silver containing large percentages of the anlphides of copper and lead. Mr. Whitney has since then been in London, and is reported to be forming a company for the purchase of a group of mines close to Empire City, on Clear Creek. The processes of amalgamation in Colorado are modified in many cases very considerably from the usual details of procedure in Nevada.

EDITORS PRESS:—In experimenting on the use of "cadmium in the assay office," as spoken of in the MINING PRESS, page 95, Vol. XV., I find that it is an excellent precipitant of silver; but as it also precipitates copper and lead, its use in assaying the former metal must be very limited.

C. H. A.

Lone Pine, July, 1868.

HAVE you lost your spectacles? perhaps you never had any, but need a pair. Muller keeps every variety at No. 205 Montgomery street, not far from Bush.

Spaulding's Patent Movable Saw Teeth.

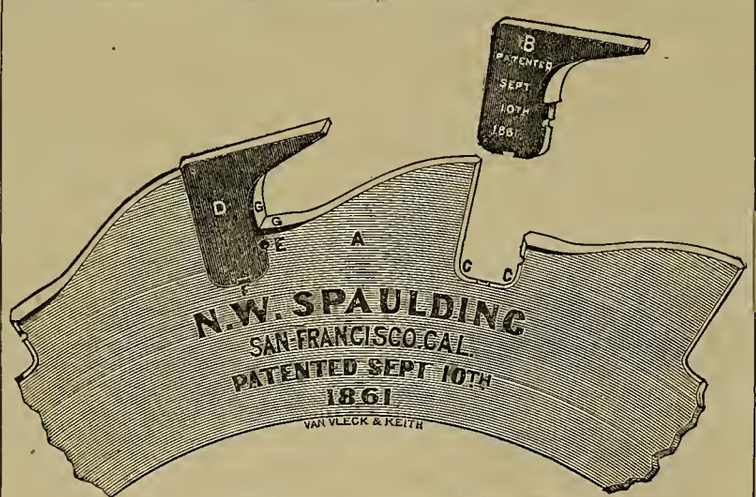
It is now more than thirty years since movable teeth have been inserted into small saws, such as are used for sawing shingles, clapboards, etc. But it is only quite recently the true principle for their proper insertion has been discovered and practiced. For many years after the employment of movable teeth was attempted in large saws, so much difficulty was encountered from the cracking of the plate, that their use was but very limited, and many who had essayed to use them were compelled to drop them and go back to the solid teeth, on account of the impossibility of making the plates stand. The plates always gave way in the angles of the sockets made for receiving the teeth; and when a crack was once commenced, it was sure to gradually increase, and progress toward the center of the plate until the saw become worthless. After a while the practice grew up of drilling a small hole at the extreme end of the crack, which often served to stay the progress of the same. From this idea, Mr. N. W. Spaulding, of this city, conceived the idea of making the sockets on circular lines. After a little experimenting, sufficient to prove the value of that mode of setting teeth, Mr. S. patented his new method of setting teeth. The claims upon this patent, which bears date Sept. 10th, 1861—re-issued April 21st, 1863—read as follows:

What I claim as new, and desire to secure by letters patent, is:—1st, Forming the recesses or sockets, in saws or saw-plates for detachable or movable teeth on circular lines, substantially as and for the purposes herein set forth

2d. In combination with sockets or recesses formed in saws or saw-plates, as herein recited, I claim teeth having their base or bottom parts formed round, or on circular lines as described.

The illustration herewith given clearly exhibits the form of Spaulding's Movable Teeth, and of the socket into which they are inserted. A represents the saw-plate, B the adjustable tooth, C C the socket, D the tooth when fastened into the plate, E the rivet for holding the same firmly in its place. F shows a small key-seat, placed in the bottom of the tooth for the purpose of allowing a key to be driven under to raise it out of the slot. G G shows the flanges of the tooth and edges of the saw.

These teeth are made and inserted by Mr. Spaulding as a private business of his own, but carried on in connection with, and in the Pacific Saw Company's Factory, at Nos. 17 and 19 Fremont street, in this city, of which company he is a member. A full description of these works was published on Thursday. Mr. Spaulding employs some twelve hands in his especial business of making and inserting artificial teeth. The process is nearly all done by machinery, and by the most skilled workmen which the country can produce.



SPAULDING'S PATENT MOVABLE SAW TEETH.

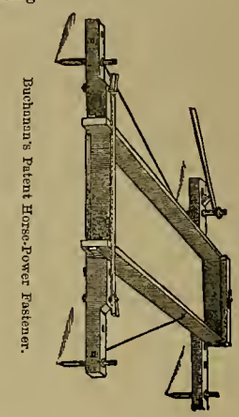
The introduction of the circular socket formed a new era in the saw business—rendering the use of movable teeth perfectly practicable, and greatly reduced the running costs of saws. The successful introduction of these teeth, together with some other but less important improvements, has within a few years nearly doubled the capacity of any given saw for work. A saw once cutting 10,000 feet of lumber per day, can now be made to cut fully 20,000 feet. The feed was then 1½ inch, when it is now 3-inch.

Among the advantages of movable teeth, is the fact that they can be made to carry more feed, cut easier and with the use of less power, and be kept in order at half the price of fixed teeth.

In addition to the foregoing illustrations, we refer the reader to the last column of this paper, which contains further illustrations of various saws manufactured by the Pacific Saw Company. We are always pleased to note improvements in home industry, when worthily conducted.

Buchanan's Patent Horse Power Fastener.

This newly patented device for confining horse power, for threshing machines and other purposes, is meeting with much success, and saves a great deal of time and money to farmers in the hurrying season of harvesting.



The cut shows how the frame of the thresher is fastened by means of rods at the side, and keys at the end, to the frame that is staked firmly to the ground by means of the four iron pins. When firmly driven into the hard, dry adobe soil of California, these pins are easily and quickly drawn without the use of any tool other than a stick of hard wood or crow-bar, as shown at the upper left hand corner of the engraving. The washer, which operates loosely on the pin, is raised sufficient to admit the end of the lever, and the upward pressure on one side causes it to clasp and raise the pin. Upon raising the lever again, the washer falls from its own gravity, taking a fresh hold, and thus the process is repeated. Mr. Walter Buchanan, Solano county, is the inventor and patentee, to whom letters should be addressed for information.

IMMENSE YIELD OF WHEAT.—The papers published in San Joaquin County are loud in their praises of certain sections of that county, which have produced upwards of 40 bushels of wheat, and 85 bushels of barley to the acre. There is on exhibition at the Fair, some heads of Chili club wheat, raised in Los Angeles County this season, which yielded 80 bushels to the acre; on the same farm, the barley yield was nearly 100 bushels to the acre. While the yield in San Joaquin has been immense—extraordinary as compared to that in other countries—it is nothing extra for California. Such is the nature of the soil and climate of this highly favored State, that many fields of wheat, which have been cultivated with that grain almost continuously since the days of the missionaries, produced better crops this year than ever before. This, too, without the use of any manure or fertilizer, except such as Nature herself provided—in rain and sunshine. We should like our agricultural contemporaries to inform the public whether they know of any other country equal to California as a producer of wheat and barley.

Our Industrial Fair.

[From the Mechanics' Fair Daily Press.]

General Review of the Exhibition.

CLASS III.

Mining Machinery.

Though there is not a very full representation of what might be exhibited in this department, there are many new things still coming in, and the machinery is generally found in working order, and is set in motion during those hours when power is at the disposal of the exhibitors. We give to-day a summary of all that is to be seen at present, belonging to this class.

A small Hepburn's grinder and amalgamator is at work on some ore, where the visitor first enters the department. Hinkle & Capp's grinder and concentrator, next, are fitted up in connection with each other, but have not yet been put in operation. Everything seems to be in readiness, however, and some bags of ore are standing in waiting. Varney is just bringing in his pans and rock-breaker to-day. Hendy's and Hungerford's concentrators are at work alongside of each other, and have been going since the opening of the Fair, but on account of the inconvenience of getting the pulp and water to and away from the pans in the exhibition building, they have not been actually engaged in the concentration of any ore. Pumps are on hand in great variety, and they are still coming along, Cameron being the principal exhibitor thus far. A little wooden stamp mill is shown, with a lever arrangement to raise the stamps, so that the power which is requisite can be supplied by hand, though the number of strokes per minute is necessarily reduced. Formhall's hydraulic blower comes next, but the belt has not been attached. A device for running cars containing water and ore up an incline shaft of varying inclinations, without altering the level of the car, is on exhibition by an "honest miner" who has neglected to attach his name to that article. That globe hydraulic nozzle, and globe-pipe coupling of R. R. and J. Craig, of Nevada, is looked at by practical miners with a good deal of interest. McAuley's rope-knotted hydraulic hose covering is seen depending from the rafters. Another concentrator, by J. C. Kernan, is new in principle. It looks like a little iron cupola furnace, on its four legs, and consists of a large upright iron pipe, four feet in hight, with another similar one inside of it. The water and pulp fall into the inner pipe at the top, and rise again between the two, leaving the gold and sulphurets at the bottom, while the light and earthy ingredients are carried along and flooded over the rim of the outer pipe. Another concentrator is also to be brought in by Dr. Cox, the foundation for it having been put in readiness to-day. A quartz crusher will be put in operation at the door of the side entrance to the Exhibition. In the way of furnaces and roasting processes, there is nothing. Selby's three or four specimens of slag, antimonial lead, and antimonial oxide skimmed from the preceding, are the only metallurgical products. The ores of silver, and quicksilver, are scarcely represented. There are fine specimens of gold and sulphuret ores exhibited from Grass Valley, which will be treated of under class XI.

CLASS IV.

Naval Architecture.

Articles under this head are scattered throughout the entire building, comprising not only vessels of every description, but also tackle, rigging, pumps, and cordage, of hemp and of wire. There is a complete assortment of blocks and tackle from F. F. Mitchell's block shop. A detaching apparatus for boats, etc., by Mr. Adams, has been fully described in the MINING AND SCIENTIFIC PRESS. It is an iron block, with a ring or clevis, which opens like a pair of nippers when the object is to be dropped. Hallidie exhibits a variety of iron and steel wire ropes, round and belt-formed, for shipping and mining purposes. Copper paint, for ships' bottoms, is shown by Hill & Ferryn, together with a case of specimens of ship barnacles, mussel shells and grass, which do not attach themselves where their paint is used. The horers are also represented, in alcohol, with some specimens of their nicely executed work. Tuhbs & Co. exhibit some California-made hempen rope. Wittram's patent anchor attracts attention as an ingenious device for the better securing of a hold to unfavorable ground. Some pump gear adapted to shipping is shown by C. W. Smith. There are models of ships and boats by Jacobson, Larsen, Cousins and Haley; and two full-rigged models of ships especially worthy of mention, on account of their completeness, viz: a model of the clipper ship Young America, and a miniature ship called the Sam Marion, after its builder. The latter is surrounded by an attractive collection of sea shells.

CLASS V.

Military Engineering, Etc.

This comprises also accoutrements, firearms, camp equippage, gunpowder, matches, and fire-works. Several masterpieces of shot-guns, with finely working locks, are shown as a specialty by Wm. Rudolph. Liddle & Kaeding have an assortment of fine things in the way of rifles and pistols of different patents, but show also swords and boxing gloves as appendages of the military art, and some fishing tackle. Schueider & Browning represent rifles as their specialty. Several very large and heavy telescopic rifles, for distances of a mile and over, remind one more of artillery than anything else. Since the Berdan regiment distinguished itself at the war in the use of the telescopic rifle, the art of shooting far, with all the nicety and science of artillery practice, seems to be in favor with riflemen. Powder is exhibited from the Pacific Powder Works in Marin County, and from the powder mill at Santa Cruz. A variety of qualities, for different purposes, as bunting, mining, and common powder, of every grade of coarseness and fineness, are shown by both companies, in cabinet bottles, cannisters, and kegs. Fuse for ordinary mining, and submarine purposes, is exhibited by two manufacturing companies which make that their specialty—the California Fuse Company, and by Brickfordt and Co. A variety of hemp, water-proof, and tape fuses, are shown together with the raw materials. The Eureka Match Factory is very showingly represented, in the display of the entire process of match-making from beginning to end, including the chemicals used, and a revolving pyramid of finely labelled commercial packages, topped off with a feminine "match for anybody." Newhauer, of the San Francisco Match Factory, is also reported present somewhere in the Fair. Fireworks are exhibited by Church & Clark, on the wall over the entrance.

CLASS VI.

Civil Engineering and Architecture.

The Nonpareil Fire Escape, exhibited by E. Hawtborne, is an iron cage covered with canvas, and furnished with rope and pulley attachments, with which one can safely descend from any window to the ground in case of fire. McKenzie's Self-adjusting Truck for raising and clearing flags, is a contrivance for fastening the halliard pulley at the top of a flag pole, so as to avoid fouling on the wind's changing, by permitting the pulley always to swing to leeward. The Eureka Hoist, exhibited by Johnson, is an ordinary hotel elevator, worked by rope and pulley. The cage is very similar to the approved modern mining cages, and there is an improved "safety clutch," to break the revolution of the pulley attached to the cage. Sweet's Window Spring and Sublett's Catch, are handy inventions, which come under this head as building contrivances. Hunt's Windmill is a simple and economical form of that ancient motor. Bodwell's may be seen in operation outside of the Pavilion. A metallic sewer valve, to connect cement pipes with side joints, is exhibited without the name of the owner. Eagan Brothers exhibit specimens of their asphaltum concrete roofing, sidewalks, drain pipes, and iron water-pipes lined with concrete. They are made by pressure, and are very durable. The cementing substance is a thickened petroleum, and comes from Santa Barbara. Menant's Asphaltum Company produces an article for pavements, and other uses where toughness is required, which is set forth to be "as hard as a rock." Skinner exhibits a lot of his patent pressure sanitary pipe, from the works at the Mission. They resemble Eagan's, and the raw material is likewise brought from Santa Barbara. Ordinary earthy cement pipes and drains are manufactured by the potters, and will be spoken of in that connection. J. F. Fulton exhibits a large amount of solidly manufactured leather hose, and some nozzles for firemen. Levey's Fire Extinguisher is put up on the knapsack principle, with a rubber tube and nozzle, to apply it in theaters, hotels and ships; but in all the descriptions and laudatory certificates there is no mention made of the nature of the mysterious substance used, or of the chemical principle which is claimed to be turned to such useful account. D. D. Hayes exhibits a hook and ladder fire-escape. Several very finely made, dark-colored engineers' instruments, represent the workshop of John Roach, viz.: a solar compass, made a little differently from the Troy instrument; an ordinary surgeon's compass with a vertical limb attached to the diopter, intended for miners' use; and a transit; the appearance of all of which is very creditable. A drawing of an improved suspension bridge is exhibited by Swyney & Smith.

CLASS VII.

Philosophical, Dental & Surgical Instruments.

Some interesting articles are shown in the case of Lawrence & Houseworth, amongst them a large artificial eye, illustrating the situation of the delicate muscles and nerves of that organ. A binocular microscope, and a handy pocket surveying compass to be used on the end of a cane, for horizontal as well as vertical angles, are worthy of attention. Surgical appliances and dental productions complete the representation of this class, if we except the engineer's instruments, which have been mentioned under Civil Engineering, the Anthro-photoscope, in the north tower, which has been described heretofore as related to the stereoscope, and the exhibition of stereoscopic cases and pictures in the art gallery, which belong more properly to Class XXI. The surgical appliances on exhibition are: Palmer's leg, by Jewett; Clements' artificial leg; Folleau's anatomical machinery, trusses and legs; and Koehler's trusses, elastic shoulder-braces, and ladies' belts. Dentistry is represented by Drs. Belle, Bush, McAllister, Cool, Colwell, Calvert, Heald, Hutchinson, Lihhy, and McDonald, who exhibit various kinds of dentistry work, and dentists' materials.

CLASS VIII.

Steel and Iron Manufactures.

This class comprises a little of everything, including tools, locks, and brass, copper, tin, lead, and cosmopolitan manufactures. The articles are necessarily scattered and difficult to group, but they embrace some of the best things in the Exhibition. We have taken notes of and classified all the articles that we saw under this head, which will be found located, however, sometimes in widely different parts of the building.

Goff's Patent Portable Cross-head, Wrist Pin and Crank Pin Lathe, is an excellent example of the utility of labor-saving machinery. It is a small portable machine to be applied to unevenly worn cross-heads, wrist pins, and crank pins, in engines aboard of steamers, locomotives, or other machines which cannot be conveniently taken to the machine shop. The work is now necessarily done by filing, or a number of hours or days have to be lost in getting out the part requiring repair. With this machine it is easy to make a straight and true pin, or steamship shaft, on the spot. The advantage is that the pin or shaft being true, there will be very little wear in the box, and the entire machinery will run so much the better, and longer. It is a simple but very praiseworthily devised invention. V. P. Wilbert's Safety Hook for mining purposes, will be appreciated by those who have experienced the sensation of a bucket's grazing down unexpectedly, past the rim of their hat. A simple slide with a spring catch, opens and closes the hook with but a single motion of the hand. Steel carriage springs of merit, by Betts & Fookes, are subjected to test under screw pressure for the edification of those interested. Blake's Safety-Valve for fire hose, is a necessary appendage to the appurtenances of the steam fire engine, to avoid getting on too much pressure, and thus bursting the hose. When the pressure is over eighty pounds to the square inch, a spring lets out the water laterally. The castings for a Carvalho's superheater show the economy and simplicity of that application to ordinary boilers for the drying of steam or preventing of condensation in the leading pipes, and consequently the economizing of fuel. Marsh & Pillsbury's blower is a compact and efficient little machine adapted to forges and small blast furnaces. The Formhall blower is described in all the metallurgical books as the Cargniadelle, after the name of the original inventor. It is a cylinder containing spiral windings immersed in water, the revolution of the cylinder and flow of water in the windings, pressing the air violently out at one end, and is a very economical machine where the communications admit of the transportation off so bulky an article. A specimen of boiler work is on exhibition from Risdon's Locomotive Works, and there are some heavy forgings for large street trucks, intended to carry many tons weight, from the Pacific Forge. Rudolph exhibits an imported turning lathe, suitable for either wood, iron, or brass work; a serviceable article, being identical with the lathes used for practical instruction in wood and metal work at the Royal *Arbeiter Schule* at Munich. A beautiful little case of tools for making screws, is exhibited by Charles Watson.

Scales, there are on exhibition a sufficient number and variety to enable a body to make a study of the article. Fairbanks & Hutchinson are extensive exhibitors, showing every size of article, down to the kinds adapted to druggists' uses. F. H. Pratt, of San Rafael, has invented an adjustable column for ordinary platform scales, a specimen of which may be seen applied to one of Fairbank's Scales. Peterson & Jones' spring and treadle titanic blacksmith hammer, has been mentioned heretofore. Thomas exhibits some ordinary blacksmiths' bellows o 'California manufacture.

The Pacific Saw Manufacturing Company exhibits a splendid array of everything belonging to their specialty, presenting a flourishing aspect which is gratifying to our local pride, and suggestive of the wealth and influence which are destined to grow up under our eyes in the establishment of a hundred other similar branches of manufacturing on the Pacific Coast. They show also knife-blades, and tools for mitering, and for sharpening saws.

The American Saw Company occupies less space, in another part of the building. Everything useful and necessary, however, in the branch, is shown, and a specialty of theirs observable is the punching of holes behind the teeth, for the purpose of catching sawdust, and thereby permitting the saw to run more freely.

Enormously powerful iron-cutting shears of different kinds, to be driven by steam and belt, or by hand-power, are on exhibition from the Pioneer Iron Works, of Kittredge & Leavitt, who have also a powerful punch, which goes through half-inch plates of iron like leather; and a small lodging house in the shape of a safe, the attractive feature of which is a mammoth Bussey's Combination Lock of sixteen bolts, requiring no key.

A band machine for drilling iron, and some patent garden hoes, represent the establishment of Nelson & Dohle.

Some plain house safes, painted in imitation of wood, stand next, without any label, and then there is a fine, large, plain safe by Jonathan Kittredge.

Cascholt has a case of beautifully made silver and plated ornamental carriage hardware, lamps, etc.

Horse-shoes of different form for special uses are shown by M. Grogan, and by Misgill & Cooper.

A concealed door spring which is fitted into the door itself, and draws it back to its closed position; together with a "joint butt," being a double door hinge, permitting the door to be opened in or out like those at the Mercantile Library rooms, are exhibited by W. R. Doty. There are California inventions by B. F. Barker.

A saw-steadier, for delicate and accurate sawing, has no name upon it, as is also the case with a small Bussey's Combination Lock close by, the working of which can be better studied on Kittredge & Leavitt's Safe.

Hoffman's Patent Shutter-holder, enables the occupant of a room to keep his shutters

as far opened or closed as he chooses, in any kind of wind, and it is so simple, and easily applied, that it will cost next to nothing, and may be procured by any independent bachelor who has been in the habit of having his temper spoiled about the landlady's shutters.

Cramer's Patent Door-plate and Letter-box combined, is a sliding door-plate revealing an aperture for letters.

Rotating bench-vices, Hoar's patent, and a self-clinching whip-holder for buggies, are exhibited without any name, unless it be Marsh & Pillsbury's, who are located in the vicinity, and exhibit Jo Improved Axle,—the improvement consisting of a rounded up shoulder where the square portion joins the spindle, and a close-fitting countersunk collar; besides a case of blacksmiths' and masons' hammers of all shapes and sizes.

The Pacific File Works have a case of *chefs d'oeuvre* in their specialty, which may be looked at as one of the landmarks of our manufacturing progress; including some reaper's and mower's teeth with file edges.

Charles Henry exhibits a fine case of molding, carving and turning chisels.

Peculiarly constructed sheet-iron chimney tops are exhibited by Murtha & Co., who have also some artesian and petroleum well pipes. The Union Ventilator seems to be something similar to Murtha's top, but is more especially adapted to keeping out sand.

Lead products in the form of shot and pipes of every size, and sheets for special purposes in trade, are exhibited by Mr. Selby, together with a few specimens from his smelting furnace at North Beach. A pile of block tin pipe occupies part of Mr. Selby's space.

In the way of manufacturing, an event is to be chronicled in the exhibition of the first printing press manufactured on this coast, by Palmer, Knox & Co., of the Golden State Iron Works. It is a Washington hand printing press of large size, adapted to the use of country offices. Several of them have already been sent out to different parts of the State, and are working with complete success. There is a considerable saving in cost on this machine, as compared with Eastern machines, and another advantage worthy of consideration, is that whenever anything is broken, it can easily be resupplied.

Stoves and Cooking Apparatus.—A variety of petroleum stoves and other handy family contrivances appertaining thereunto, are shown by Bullard, who has also an automatic coffee roaster, revolved by a spiral spring. Tay, Brooks & Backus exhibit stoves and cooking ranges, with all the useful appurtenances, and a patent sprinkler and nozzle combined, for gardens, streets, windows, and fires. A screw is turned, and it ceases to be a sprinkler, and becomes an ordinary nozzle. Holbrook & Merrill exhibit the Peerless cooking range with an accompanying stand for pails and plates, and a variety of tin, sheet iron, and copper ware. Similar articles are attractively displayed by A. C. Taylor, viz., a portable stove, the doors and flue plates of which are dessicated or filled in with cement where it is to be set up, making it equal in non-conducting properties to the porcelain stoves which are so universally preferred and used in Continental Europe; a kitchen sink, with a self-cleaning trap or turning table, dish-pan and strainer; and a slop-hopper, with a self-cleaning trap to connect with sewers and cess-pools. John Bohm is present with the productions of the Barstow Stove Company, of Providence. An extensive and interesting display of coal oil lamps for cooking and heating purposes, occupy the space appropriated by John B. Owens. Many really useful devices may be seen there, as the attachment of a water boiling apparatus to an ordinary lamp. Bachelors and maids generally interest themselves in household mysteries to the extent of stopping to look at these articles.

A patent cake-mixer, exhibited by Davis, commends itself to housewives who wish to economize elbow grease. T. C. Walters shows a little wooden model of a patent cooking range which has been devised by him.

Tools and Cutlery.—A horse shoe nail nipper, which clinches and cuts off the nail at the same time, and an adjustable gas-pipe tong, adapted to seizing any object, are exhibited for other parties by Mr. Barlow, the representative of the Wittram anchor. Charles Ott shows a case of bits, squares, plumbs, and other much-used tools, of his own manufacture. A case of carpenter's and other mechanics' tools, of good quality, is exhibited by P. Quigley.

The California Tool Works of Weichart produce specimens of work, presented in a neatly gotten up case at the Fair, which will strike any one not acquainted with the advance of the manufacturing capabilities of the coast very agreeably. It is, indeed, a surprise to see such perfect execution and finish in cutlery applied to a tool like the die for cutting delicate and fashionable gloves. We had supposed that an article of that kind would not be needed here for 20 years; but there is no reason in the world why California, with its moderate Chinese labor, should not make gloves and export them to the East. These dies are made so as to cut out at once, through a great many thicknesses of leather, as many gloves as are wanted in the shape required. Besides which there are steel coopers' planers, butchers' cleavers, molding cutters, etc., of equally fine quality and finish.

A self-coring mortising chisel, invented by Hutchinson & Adams, is an economical modification of the ordinary tool, the side lips of which are apt to break off. In this, the side lips of the chisel cut in advance of the chisel, thereby separating the chips at the side, so that they are thrown up, the chisel and mortise are constantly kept clear, and there is scarcely any further labor required in cleaning out the mortise after the chisel has done its work.

The manufacture of cutlery is splendidly represented by Will & Finck, who have several large cases of the finest articles, comprising knives, corkscrews, shears, gauging tools, etc., many of which are of home manufacture.

Brass Manufactures and Bell Hanging.—A large case, illustrating at a glance the entire science of wire-pulling as practiced in hotels—presenting a labyrinth of wires which produces order out of the maze that would otherwise be one of inextricable confusion, and drowsy in its communications as an old country tavern—is exhibited by Will & Finck, bell-hangers. A number of other parties in this branch of business have been enterprising enough to make a fine showing at the Exhibition. Garvey & Kimball display everything in the line, amongst which are some large fixed bells, or gongs.

Gallagher & Weed show, besides all the ordinary paraphernalia of bell-hangers, nozzles, spikes, valves and joints, castings in brass and composition metals, bells, etc.

Garratt makes a still more extensive showing, having on exhibition, besides a number of articles of more special application, as anti-friction metal, steam indicators, steam whistles, valves and the like, and several small brass cannon.

Metal spinning and brass and copper vessels are represented by F. Shoener.

Wire Manufactures.—Spiral springs and other wire manufactures of brass are exhibited by Mr. Hinckley, at the entrance to the music room, intended for bedding, furniture bottoms, etc. The iron and steel wire-rope manufacturing machine of Hallidie may be seen at work, usually in the evening, turning out a very beautiful quality of fine wire rope. One of the most complete exhibitions in any one department, is that of Mr. Graves, from the California Wire Works, representing all the multifarious applications to which wire has attained in modern times, for purposes of convenience and ornament. There are screens of iron and brass, a safety lamp, cheese covers, sieves for ore-dressing and for agricultural and commercial purposes, rat-traps, bird cages, sand riddles, door and window screens, and a very neat and airy-looking summer house, in which the ventilation is so ingeniously natural that there is not any danger of catching a "death of a cold" in it, except by poets and lovers. Seats, and bonnet and clothing stands, are additional uses to which wire is applied, in articles which may be seen.

Broom wire, prettily plated with different metals, chiefly tin, both plain and ornamental, is exhibited by Josbua Gray.

Locks and Safes.—V. S. Parkhurst exhibits White's Thief-Detecting Money Drawer Lock, in connection with the combination locks, which are said to be proof against false-skeleton or duplicate keys. An alarm is attached to the inside of the drawer, which gives loud warning when it is tampered with by unfamiliar hands, affording anything but a joyful sound to the stealthy adventurer. A handy little portable door-fastener, weighing one ounce, is deftly explained by the inventor, Mr. Adams.

The melting and casting of iron in the Fair will be commenced this (Saturday) evening by Hanscom & Co., of the Ætna Iron Works. A 4-inch cupola will be used, which will warm up at least a portion of section 36, and prove an interesting display to many.

"Swinging Round the Circle."—Those miniature ships revolving around the fountain, so gay and sportive, are propelled by an ingenious contrivance devised by Swyney & Smith, whose card appears in to-day's paper.

Mechanical.

Mr. Bourne's Coming Motor.

In our issue of August 1st, we alluded to the new work of Mr. Bourne, and his prediction that the steam engine is to be superseded. We gave also some remarks upon the subject from *The Engineer*. A late number of that journal has an article, a portion of which we condense as follows:

"In what direction are we to seek for a substitute for the steam engine, at once simpler and more economical? Mr. Bourne is silent on this point. Is it to be found in electricity or magnetism? No. It is well known now that in availing ourselves of these forces we draw on no ready store of power at first hand. Frictional electrical machines only convert, by a subtle agency imperfectly comprehended, the power expended at the moment in causing rotation into another form or force. We have presented to us the phenomena, not of the conversion at first hand of power already stored up, but of a conversion at second hand of such power into another form, which, before it can be of use, must be reconverted into one of the shapes which it originally bore. Of induction machines and galvanic batteries, the same holds good. How can these things supersede the steam engine, which practically at a single operation sets free power stored up for man's service millions of years ago in our coal fields? From chemistry we have nothing to hope. Combustion is a simple chemical operation, and when fire first came on the earth chemistry gave us her best gift. She holds nothing back which can do more for us.

"If Mr. Bourne conceives that the coming motor is to depend on electricity or on some undiscovered chemical process, he labors under a great error. We do not think that Mr. Bourne holds any such opinion, and but one direction remains in which to seek the coming wonder. It must be a heat engine, and it must dispense wholly or partially with water. But no large hot-air engines have ever been worked with success. * * * Marine engines with cylinders of 100 inches in diameter must be replaced under such a condition with others of 15 or 16 feet in diameter. Then would come huge air-pumps and regenerators. The machinery would take up as much space as boilers and steam engines together; and all this to save perhaps a quarter of a pound of coal per horse per hour. Surely Mr. Bourne is not justified in assuming that the steam engine is on the eve of being superseded by any known embodiment of any recognized principle of hot-air engine.

"Nor is it a whit more likely that we shall have a universal motor depending for its action on the evaporation of volatile fluids. All the available fluids more volatile than water give off an inflammable or poisonous vapor, which is so subtle that no known joints can prevent its escape. * * * It is due, we think, to Mr. Bourne's readers, that he should either give a reason for the faith that is in him, or retract statements which are likely enough to lead young inventors on a Will-o'-the-wisp chase. Doing neither, he must not grumble if the majority of his readers venture to think that he has written nonsense by mistake, and does not care to own as much."

Relation between Crank and Piston.—When the crank makes a revolution it describes a circle, twice the diameter of which is precisely equal to the space passed through by the piston during the same time: hence, assuming the pressure on the piston to be one pound, it follows that the average pressure on the crank-pin must be equal to the pressure on the piston multiplied by the space through it has passed, and divided by the space passed through by the crank. Thus, supposing the stroke to be one foot, $2 \div 3{\cdot}1416 = {\cdot}636$ = mean pressure on crank; and one pound pressure on piston multiplied by two feet, the space through which it has passed, equals two, the power exerted by the piston; and ·636, the pressure on the crank, $\times 3{\cdot}1416$ feet, the space through which it has passed, $= 1{\cdot}906$ = the power exerted by the crank. The difference between 2 and 1·906 is due to the imperfection of the ratio between the diameter and the circumference of a circle.—*American Artisan.*

"The Wheel."—A funny *felloe* asks us if we have ever seen the second number of our circumgyratory cotemporary, or whether the public are *tired* of "The Wheel." N. B.—It has only made "one revolution." *American Artisan.*

Scientific Miscellany.

Algæ in California Hot-Springs.

Prof. H. C. Wood, Jr., of the University of Pennsylvania, describes, in the July number of the *American Journal of Science and Arts*, some specimens of *Algæ* gathered by Mrs. Partz in the "Benton Springs," in the northern part of Owen's Valley. This lady writes to her brother, Prof. Seidensticker, as follows:

"I send you a few samples of the singular vegetation developed in the hot springs of our valley. The springs rise from the earth in an area of about 80 square feet, which forms a basin or pond that pours its hot waters into a narrow creek. In the basin are produced the first forms, partly at a temperature 124°–135° F. Gradually in the creek and to a distance of 100 yards from the springs, are developed at a temperature of 110°–120° F., the Algæ, some growing to a length of over two feet, and looking like bunches of waving hair of the most beautiful green. Below 100° F. these plants cease to grow and give way to a slimy fungus growth, though likewise of a beautiful green, which finally, as the temperature of the water decreases, also disappears. They are very difficult to preserve, being of so soft and pulpy nature as not to bear the least handling, and must be carried in their native hot water to the house, very few at a time, and floated upon paper. After being taken from the water and allowed to cool they become a black pulpy mass."

Prof. Wood says:—

"This plant certainly belongs to the Nostochaceæ, and seems a sort of connecting link between the genera Hormosiphon of Kützing and Nostoc.

The best algologists now refuse to recognize the former group as generically distinct, and the characters presented by this plant seem to corroborate that view.

The species appears to be an undescribed one, and I would propose for it the specific name *Caladarium*, which is suggested by its place of growth. There are several species of allied genera, which grow in the hot springs of Europe, but no true Nostoc has, I believe, before been found in thermal waters."

Mrs. Partz speaks of animal, as well as vegetable, life, as existing in these springs. She says: "Mr. Partz and myself saw in the clear waters of the basin a very sprightly spider-like creature, running nimbly over the ground, where the water was 124° F., and on another occasion dipped out two tiny red worms."

Fossils from the Cretaceous Formation.—L. Lesquereux has an article in *Silliman's Journal* for July, in description of some fifty-three fossil plants from Nebraska, mostly collected by Dr. Hayden, of the Geological Survey. This makes a total of seventy-three species from the American cretaceous formation. The great number of new species thus established is due to the fact that cretaceous fossils have heretofore been scarce. The writer says that "the more we know of the floras of the geological ages of America, the more we recognize in them peculiar types which in their grouping constitute what may be called an *American facies*, which by successive transitions has passed to our present flora, and assigned to it its general character." These cretaceous fossil plants have a closer relation to our present flora than to any stage of the Tertiary in Europe.

Test for Naphthalin.—The following reaction furnishes, according to Vohl, an exceedingly delicate test for naphthalin. When the substance under examination is treated with concentrated nitric acid, and diluted with water, the resulting precipitate is washed first with water and afterwards with dilute alcohol. It is thus placed in a watch-glass with a few drops of potassic hydrate and potassic sulphide, and evaporated to dryness. On moistening the residuum with alcohol, a magnificent red-violet color is at once developed.

There are at present seventeen lines of steamers, making 1,322 voyages per annum, between England and America.

General Review of the Exhibition.

CLASS VIII—CONTINUED.

[Continued from Page 115.

Steel and Iron Manufactures.

The Ætna Iron Works have been represented only on the books, thus far, but arrangements were being made to-day by the proprietors which will add a very interesting feature to the exhibition. A small cupola blast furnace was to have been brought in and set up, in connection with one of the blowers already on exhibition, for the smelting and casting of iron; all of which is to be done under the eyes of the observing and studious patrons of the Fair.

As the erection of smelting works cannot be completed on a few hours notice, nobody need be disappointed if the work should not begin till Monday. But an excellent opportunity will be afforded here to study the real simplicity of smelting, as applied to the most difficult and easiest smelted of all the metals. The art of smelting iron and brass was taught only a little while after the Creation, according to our best accounts, by a mechanic whose name and renown have been handed down to our day. Tubal Cain, it is recorded, gave instruction to wondering strangers from distant countries, in the art of producing metal by melting the oxides of iron.

On visiting iron foundries, people seldom see the process of smelting, or, if they happen upon it, there is so much complicated machinery around that it appears complicated to them, and the few simple conditions are apt to be overlooked.

A very high temperature is procured through the agency of the blast—that is all; and the smelter must learn how to avoid smelting down his own furnace. The ore is reduced to metal, which separates from the earthy ingredients merely by sinking to the bottom.

Price's California-made cutlery deserves particular mention. Being chiefly silver-plated, it has been placed with the silver ware. His case contains some very beautiful specimens of workmanship.

Dr. Farno's self-lighting gas-burner attracts crowds in the evening, and the idea seems to be practical and useful. By the application of a little thought on the part of the inventor, we are enabled to dispense with the nocturnal amusement of fumbling for matches, and to turn on the gas instantaneously, at any time. The principle is the use of a little side jet, which is always burning whilst the main burner is not in use, and which is prevented from blowing out by an acorn-shaped thimble. When the light is turned off the little burner catches, and when it is turned on the little one goes out. The expenditure of keeping this little burner alight for a year is half a cent, or the use of one cubic foot of gas; and there is always enough gas left in the pipe to keep it burning for days, though the meter has been turned off.

Lumsden & Boone exhibit a patent sail needle.

A little perforating machine for making brass stencil plates, and the like, is shown by Young & Smith.

Quartz screens of all desirable varieties, are exhibited from the Vulcan Iron Works, and from the establishment of H. J. Booth & Co. Punched sheet iron screens, with round holes, or elongated and slitted apertures, having bulged and roughened edges, seem to be most in favor.

B. L. Stoue exhibits a California invented burglar alarm; R. F. Ricchiole some California made chandeliers; Milliken & Johnson, a self-solderiug cock for tin boxes: Mr. Hoffman, some California made tin and wire flower stands; S. M. Briggs, a California invented miter-box; R. F. Ashburn, some oilers and self-oiliug cups; James Sims, a patent gas chandelier and globe reflector; R. P. Thomas, a patent submerged coffee boiler; and J. B. Whittemore, a Schoener patent no-chimney kerosene burner, by the use of which, at a cost of about four bits, any petroleum lamp may be used in the kitchen or in lanterns, like an ordinary candle, without a chimney; D. Stoddard, several governors and injectors for engines; L. Chely, safes; and W. McKibben, a sewer valve. About half a dozen proposed exhibitors have failed, in this department, to make their appearance.

[From the Mechanics' Fair Daily Press.]

Artificial Stone.

There are probably few articles which have been presented for the consideration of visitors to the Fair, entitled to more attention than the artificial stone, manufactured hy the Pacific Stone Company of this city, under the patent of Prof. Ransome. By this process, the sand that lies iu such inexhaustible profusion around us, may soon be converted into palatial residences, into ornaments, statuary, etc. Everything that can he molded with plaster of paris or iron, can be molded into this stone. It is composed of sand cemented hy chemical action between silicate of sodium and chloride of calcium—inexpensive substances. It is said to be equal to the best natural saudstones if not superior to them; to resist heat and cold, and only to improve with age. The scientific men of England and America unite commendingly of it. In Hongkong, China, a very elaborate fountain of this material has been erected, as appears hy a report accompanied with a design, in a late number of the *Illustrated London News*. Orders have recently heen executed, or are in process of execution, from the Bengal, Bombay and Madras presidencies, from Kurrachee, in Scinde, from Tasmania, Adelaide—where the capitals for the columns of the new town hall were supplied by Mr. Ransome's Company—Sidney, Melbourne, New Zealand—where he furnished 126 large Corinthian capitals for the Government building—China, Turkey, Egypt, Holland, and other countries. Among the orders in hand is one for a large number of Ionic capitals for the University of Calcutta.

The process of manufacture is remarkably simple, yet it is based upon the most scientific principles. The sand, chalk or other mineral substance is intimately mixed with its proper proportion of a solution of silicate of soda, by means of an ordinary pug-mill. The mixture is thus rendered of a plastic consistency, when it is either pressed into blocks or molds, or rolled into slabs, or any form that may be desired, and it is then either saturated with, or immersed in, a solution of chloride of calcium, when a double decomposition of the two solutions employed immediately takes place. Thus is formed an insoluble silicate of lime, firmly enveloping and cementing together all the particles of sand or other minerals of which the stone is composed. The cost of production is said to be less than that at which the natural stone can be obtained. The stone proposed to be manufactured by this company has stood the severest test—a parallel bar, measuring four inches by four, sustaining 2,122 pounds, whilst a similar bar of Portland stone broke with 759½ pounds. In another case the stone stood a pressure of 1,980 pounds, whilst the Portland stone broke at 1,104 pounds, the Bath stone at 786 pounds and the Caen stone at 768 pounds. Mr. Ransome's stone has been boiled, and roasted, and frozen, and pickled in acids, and fumigated with foul gases, with no more effect than if it had been a boulder of granite or a chip of the blarney stone. It has no oxidizable constituent; for silica, or silicic acid, is already oxidized, and thus it is unalterable in air, and as the new stone is almost impermeable, it will suffer little if any injury from moisture or frost. Unpretending and unassuming as this stone may seem, the parties who have interested themselves in it venture to predict that it will develope into one of the most important interests in the State. The Pacific Stone Company has, within the past few days, been incorporated with a capital of $100,000, the incorporators being among our most respectable, responsible and reliable business men.

THE NOVELTY OF THE FAIR.—William H. Jessup & Co., Proprietors of the Eureka Match Factory, have made a fine display of their manufacture in all conceivable styles. The great attraction is the tasteful arrangement of their goods on a pyramid surmounted by a beautiful pedestal, on which stands a wax figure, representing a lovely girl, dressed in the hight of the fashion, holding in her hand a finely cut-glass sign, with the words "Eureka,—a Match for any one," over which a handsome sign of the firm, supported by gilt scrolled brackets,—the whole being revolved by means of pulleys and belts attached to the main shaft that runs the other machinery. Mr. Jessup is entitled to credit for the effort made to add to the attractions of the fine exhibition of the present year.

New Patents Issued to Pacific Coast Inventors.

Specially reported by the U. S. Patent Office, Washington, D. C., to DEWEY & Co., American and Foreign Patent Solicitors, and Publishers of the MINING AND SCIENTIFIC PRESS.

ISSUED FOR THE WEEK ENDING AUG. 4, 1868.

80,503.—IMPROVEMENT IN CULTIVATOR TEETH.—William B. Ready, Sacramento, Cal.:

1. I claim the groove *C*, in stock a, as a seat for an adjustable point for a cultivator tooth.

2. The movable tongue d, pierced with holes or slots i, i, i, i, forming an adjustable point of a cultivator tooth.

3. The combination of the grooved stock or support a, with the adjustable tongue d, for the purpose of a cultivator tooth, substantially as above described.

80,606.—IMPROVED APPARATUS FOR DISINTEGRATING GRAVEL CONTAINING GOLD, ETC.—J. B. Cox, San Francisco, Cal.:

1. I claim the slotted bottom or floor d, of the tub D, when constructed in several independently-removable pieces, for the purpose specified.

2. The combination of the tub D, slotted floor d, rake F, shaft G, and receiving vessel B, when the several parts are constructed to operate substantially as and for the purpose set forth.

80,612.—IMPROVEMENT IN COUNTING REGISTERS.—Jacob S. Detrick, San Francisco, Cal., assignor to self and Wm. R. Eckart, of same place.

I claim the combination of the lever G, or its equivalent, with the detachable spindle J, and the wheels E, I, when the parts are constructed and arranged so as to operate together, substantially in the manner and for the purposes indicated.

80,629.—IMPROVED MACHINE FOR SEPARATING AND CONCENTRATING SULPHURETS.—Andrew Hunter, San Francisco, Cal. (Antedated July 25th, 1868.)

1. I claim the formation of the trough or table B, with or without metallic lining, and alternately inclining and level, as shown hy lines a, b, d, substantially as described and for the uses and purposes as set forth.

2. The combination with the table or trough B, and its adjustable hangers, of the cam shaft and spring X, under the arrangement described, whereby both the oscillatory motion and percussion of the said table are effected for the purpose of separating the sulphurets and metal from the lighter particles as set forth.

3. The eccentric strap Z, in combination with the trough B, and cam or equivalent means for imparting an oscillatory movement to said trough substantially as and for the purposes set forth.

4. The combination with the table B, and mechanism for imparting to the same an oscillatory movement of the rocking trough E, arranged for operation substantially as and for the purposes specified.

5. The combination with the oscillatory table or trough B, of the rotary scraper W, made of india rubber or other suitable material, substantially as set forth and for the purposes specified.

6. The combination with the table or trough B, of the inclined screen T, and mechanism for imparting to the same a vibratory motion under the arrangement, and for the operation as herein set forth.

7. The combination with the oscillating trough and hangers by which the rear end of the trough is held, of the wheels or rollers R, for supporting the front end of said trough, substantially as herein shown and described.

8. The combination of the table or trough B, with eccentric trough E and G, hangers D, D, spring X, wheels or rollers R, scraper W, and sieve T, substantially as described and for the uses and purposes as hereinbefore set forth.

80,646.—IMPROVEMENT IN MANUFACTURING AND PURIFYING SPIRITS.—Peter Martiu, Forest Grove, Oregon. (Antedated April 4, 1868:)

1. I claim the manufacture of alcohol and other spirits in the manner substantially as herein described.

2. The use of saline matter for manufacturing and purifying spirits, in combination with my said process substantially as described.

80,718.—IMPROVED MEDICINE.—Emil Frese, San Francisco, Cal.

I claim the above described composition for Cathartic Tea, made of the ingredients enumerated, mixed and compounded in about the proportions specified.

80,738.—IMPROVEMENT IN VALVES FOR STEAM ENGINES.—William D. Hooker, San Francisco, Cal.:

1. I claim the recesses *o o'*, in the piston *b*, arranged with reference to the ports *h h'*, substantially as herein set forth and shown.

2. The arrangement with relation to the cylinder *a*, valve-chamber *c*, and the additional puppet-valve chamber of the valve *d d'*, with its recesses *u u'*, supply port f, ports *g g'*, *h h'*, *i i'*, *e e'*, vents *q q'*, exhaust ports *j j'*, ports *s s'*, and puppet valve *r r'*, substautially as herein described and shown.

80,739.—IMPROVED AMALGAMATOR.—Alfred Horn, Silver City, Nevada:

1. I claim in combination with the annular chambers B, and B'. I claim the connecting groove or grooves D D, substantially as and for the purpose specified.

2. The incline projection or scrapers F F, cast at the end of the shoe, conforming to the natural wear of the shoes and dies without adjustment, substantially as described.

3. Attaching the wings G G, by the bevelled slots H H, and lugs H' H', substantially as described.

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Weekly Stock Circular.

y Associated Brokers of the S. F. Stock and Exchange Board
San Francisco, August 22, 1868.

Financial.

Gold in New York, August 21st, at 3 P.M., 144⅛.

The independent character and condition of California was never better exemplified than at present. While business is suffering extreme depression in the Eastern States and all over Europe, it is healthy and vigorous in its country. Our local money market, the financial thermometer, exhibits a very marked increase in the demand for cash, arising from legitimate mercantile transactions, the moving of our heavy crops, the amount and value of the improvements going on in nearly all portions of the city, and for settlement of Eastern bills, rendered advisable at this period by the rise of gold and the corresponding depreciation of paper money. Rates in bank remain rigidly fixed at long existing quotations, 2@1½ per cent. per mont. The demand upon our savings institutions is very urgent, mortgages being effected for large amounts, upon a monthly repayable basis, at 1 per cent. The surplus of cash has been largely diminished in consequence of this general activity. Gold Bars are weak at 880@890; Silver Bars rule from par to ⅛ per cent. premium; Currency Bills on Atlantic cities are quotable at 41@42 per cent. premium in Gold; Sight Drafts, payable in Coin, ¾@1 per cent. premium; Telegraphic Transfers, 1@1½; Sterling Exchange, 48¾@49d; Commercial Exchange, 49¾d.

The sub-Treasurer shipped another half million of dollars by the N. A. S. S. Co.'s steamer, Original which sailed on the 20th August, making a total of $7,000,000 so far this year, being $1,500,000 more than he shipped in all of 1867. If the official under whose orders these further shipments are made will not consent to remove the veil of secrecy, he should at least give some good reason why it is continued.

City Stocks.

The market for miscellaneous shares is dull, and for the past week sales have been confined to a few leading incorporations. Spring Valley Water Co. stock was in the market at $66@65 75, and a few shares of California Steam Navigation Co. stock sold at 69¼@69 per cent. Twenty shares of the San Francisco Insurance Co. sold at $105 per share. This company is now winding up its affairs, having voted to disincorporate a short time ago.

The receipts of the local insurance companies during the month of July and previously this year, according to the returns in the hands of the Internal Revenue Collector of this district, have been as follows:

	July.	Previously this year.	Total.
Pacific	$75,688	$368,857	$444,525
Union	36,400	198,214	134,614
National	....	201,253	201,253
Fireman's Fund	18,557	113,885	132,142
Builders'	21,376	121,056	142,432
California	10,987	76,050	87,037
Merchants' Mutual Marine	23,710	97,727	121,437
Accidental	12,304	40,595	52,899
Home Mutual	13,714	60,173	73,887
San Francisco	....	25,954	25,954
People's	7,080	38,434	45,514
Totals	$219,736	$1,341,958	$1,561,754
Same time in 1867	192,109	1,054,257	1,246,366
Increase in 1868	$27,687	$287,701	$315,388

The returns were made upon a legal tender basis, the tax—72 cents for January, 71 cents for February, 72 cents for March, April, May and June, and 70 cents for July—being fixed every month by the Assessor of the district.

The National and San Francisco have disincorporated and their outstanding risks have been transferred to the London and Liverpool and Globe Insurance Company.

The above statement shows an increase of $24,822 as against the receipts in June. The receipts of the several companies in July, as compared with June, show the following difference:

	Increase.	Decrease.
Pacific	$20,831	.....
Union	15,892	.....
Fireman's Fund	1,706	.....
Builders'	.....	2,998
California	.....	8,241
Merchants' Mutual Marine	5,261	.....
Accidental	1,840	.....
Home Mutual	.....	366
People's	463	.....

The receipts of the city railroads for the month of July and previously this year, have been as follows:

	June.	Previously this year.	Total.
Omnibus	$28,826	$146,919	$175,745
North Beach & Mission	24,664	129,570	154,234
Central	15,464	80,792	96,256
Front Street, Mission & Ocean	9,317	48,434	57,751
Market Street	11,344	49,494	60,838
Potrero and Bay View	2,803	10,566	13,369
Totals	$92,418	$465,775	$558,193
Same time in 1867	77,914	375,815	453,729
Increase in 1868	$14,504	$89,960	$104,464

Showing an aggregate increase of $5,466 in July over the receipts of June. The receipts of July as against June show the following difference:

	Increase.	Decrease.
Omnibus	$1,872	.....
North Beach and Mission	1,939	.....
Central	928	.....
Front Street, Mission and Ocean	639	.....
Market Street	871	.....
Potrero and Bay View	17	.....

The receipts of the San Francisco and San José Railroad were $59,823 in May; $51,425 in June, and $52,502 in July.

Mining Share Market.

The mining share market has obtained a healthier condition, and a very material rise is perceptible in several the Gold Hill claims on the Comstock Lode. The depression which has continued for so long a period is about being lifted, and under the favorable developments some of the drifts, and the reasonably fair prospects the future, we may soon look for greater improvement. The great desideratum to work more successfully in the lower levels has been that of air, which now being supplied through blowers, the Chollar-Potosi Co. having one in successful operation, and the Hale Norcross are about putting one up. In relation to the latter the *Trespass* has the following: "The Hale & Norcross Mining Company received from the manufacturers Stockton, California (Keep & Blake), a machine known the 'rice-blower,' which is to be placed in position at the mine to force fresh air into the lower levels. The paratus is quite a curiosity, and is destined to come to general use and be of incalculable benefit to our mines. It will be run by a separate engine, and to his understood must be seen. This is the first 'rice-blower,' yet imported for use at the mines, but several have already been ordered by the Imperial and other companies. It is small, but has great power, and will force a continuous and large volume of air to any desired depth, while the cost of production of the few pounds of steam required to run it will be trifling." At the close, the market is active, with an upward tendency in prices.

SAVAGE—has been quite steady since our last issue, selling at $109@113, and closed at $112. For the week ending Aug. 15th 1,210 tons of ore were extracted, showing an approximate value of $38 21 per ton. The ore came from the following localities: Bird station, north mine, 69 tons; fourth station, north, 52; fourth station, south, 911; fifth station, north, 30; and fifth station, south, 148. During the three previous weeks 2,873 tons of ore were sent to the mills. The various breasts do not look quite so well; however, new ore faces are being opened, from which they had been cut off for nearly two weeks for want of air and the necessity of filling, and these will increase the product considerably. In the north mine on the fifth station there is no change worthy of note, while the south mine shows considerable improvement over last week. In winze No. 1 they make slow progress, owing to a large amount of water and hard rock, and winze No. 2 has been sunk over twenty feet, continuing in good ore. The north drift from the sixth station is in hard porphyry, and the south drift, same level, is now entirely in quartz, but has not improved sufficiently to enable them to save any ore from it. The mills are running full. Receipts of bullion for August to date, $92,000.

IMPERIAL—improved from $108 to $120, then sold at $112@118 50, and closed at $116. On the 17th inst. the Superintendent wrote as follows: The rock in the Imperial-Empire shaft is not so hard as it has been. The shaft is now 33 feet in depth below the 900 level. The "raise" progresses slowly on account of the great heat. The winze on the 700 level of Alta mine is 13 feet deep, and its course is running over the ore, leaving it on the under side of the winze. Three shifts had been put on in raising on ore above the 700 level. About 130 tons of ore are now daily taken from the mine. On the 14th inst. $3,578 in bullion was forwarded from the Gold Hill mill, and on the 19th $8,999 from the Rock Point mill, making $19,033 so far for the present month.

KENTUCK—has been in good request, rising from $381 to $450, and closing at $425. The receipts for August to the 18th inst. foot up $51,035, against $38,148 same time in July, and $23,717 in June. The bullion returns for the present month, from present appearances, will exceed those of any previous month since the existence of the company. Recently they have found a small stratum of excellent ore on the 800 level, in addition to the heretofore favorable developments.

CROWN POINT—was in better demand at improved prices, selling at $80@88 50, and closing at $90. The stopes look as well as usual, and, generally, this mine promises well for the future. The east drift from the 900 level is in fine looking quartz, with considerable pay ore. The winze to the 900 level is 80 feet in depth. The south drift from the 900 level is in 161 feet, running in quartz, and it is thought the ledge will be reached at a distance of 200 feet—about 40 feet more than the present extent of the drift. The receipts of bullion to the 18th for the present month aggregate $31,513. A telegram of the 21st, says that the winze is 91 feet in depth, and the drift on the 900 level extended 163 feet; rock soft, with considerable pay ore scattered through it.

AMADOR—declined from $238 to $224, rose to $227, and closed at $229. The receipts to date for August foot up about $22,500. During the above run the Badger mill was idle about a week. A dividend of $2 per share was paid on the 20th. The general appearance of this mine shows some improvement over previous reports.

CHOLLAR-POTOSI—improved from $134 to $155, and at the close realized $157. During the week ending August 14th the yield of ore has been increased to 1,157½ tons against 760½ the previous week. The operations of a "blower," recently introduced to force air to the lower levels, have been very satisfactory, having reduced the temperature about forty degrees.

OVERMAN—has been in marked favor under a material rise, improving from $80 60 to $110, and closing yesterday at $100. On the 15th of August the drift on the 400 level was carried through the clay wall, running in "lively" looking quartz, and the Superintendent reports that "in a few days we may expect to strike a body of ore on this level." $4,421 in bullion came down on the 20th.

ALPHA—has been in favor at an advance, rising from $47 to $53, declining to $50, and closing at $51. On the 250 level the south drift has been connected with the Imperial workings, where they found some very fair ore, and they expect to be more successful in a few days.

HALE & NORCROSS—has been quite active at the close, selling at $73. The "blower" has improved the air very much in this mine.

The sales in the Board during the past week have been as follows: Open sessions, $567,118; regular sessions, $1,894,675—total, $2,461,793.

THE *New York Tribune* says the reason why Plantation Bitters are so generally used, is owing to the fact that they are always made up to the original standard, and of pure material, let the price be what it will. The *Tribune* just hits the nail on the head, for Plantation Bitters are not only made of pure material, but the people are told what they are made of, as the recipe is wrapped around each bottle. Don't go home without a bottle. *

CONCERT.—It is the intention of the proprietors of Woodward's Gardens to give a grand Instrumental Concert every Saturday and Sunday, at 2 o'clock P. M., at this well-known and well-patronized place of resort.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE.
Amador Co., dividend, $6 per share	Payable Aug. 20	
Belcher, Storey co., Nev	Special Meeting Oct. 1	
Bacon, Storey co., Nev., div.	Payable June 19	
Belcher, Storey co, Nev., July 13, $25	Aug. 13	Sept 14
Chalk Mt. B. G., Nevada co., Aug. 17, $1	Sept. 23	Oct. 12
Chiplonena, Mexico, July 9, $5	Aug. 13	Aug. 31
Crown Point, dividend, $7 50	Payable July 11	
Daney, Lyon co. Nev., July 27, $2	Sept. 1	Sept. 20
Enterprise, Meadow Lake, July 11, $4	Aug. 11	Aug. 27
Empire M. & M., Nev., dividend $6	Payable May 15	
Folsom St & F. Pt. R. R. Co., July 30, $5	Aug. 29	Sept. 14
Gold Hill Tun., Storey co., Nev July 18, $2	Sale Sept 9	
Gold Hill Q M & M—dividend, $7 50	Payable July 13	
Golden Rule, Tuolumne co, div 50c per sh	Payable June 26	
Hope Gravel, Nevada co, July 30, $1	Sept. 10	Oct. 5
Hale & Norcross, Storey co., Nev., July 22, $10	Sale Sept 14	
I. X. L., Alpine co	Annual Meeting Sept. 10	
Imperial, Storey co, Nev., div	Payable June 18	
Kentuck, div., $20 per share	Payable Aug. 10	
Kearsarge, Inyo co., Aug. 4, $	Sept. 4	Sept. 21
Kohler Bros., L. C., July 2, 25c	Aug. 6	Aug. 27
Lady Bryan, Storey co., July 25, $1	Payable immediately.	
La Victoire, Mariposa co., July 15, 50c	Aug. 18	Sept. 4
Morning Star, Alpine co., July 15, $2 50	Aug 17	Sept. 7
North Star, dividend, $5	Payable Aug. 10	
Pacific Unassessable, dividend	Payable June 18	
Rattlesnake, Yuba co., Aug. 7, $2	Sept. 10	Sept. 28
Rose Lloda, Alpine co., July 25, 50c	Sept. 1	Sept. 16
Rising Star, Idaho Ter., June 23, $50	Aug. 8	Sept 9
Rivot Process	Stockholders' Meeting	Sept. 3
Silver Sprout, Inyo co	Special Meeting, Aug 31	
Silver Sprout, Inyo co, Aug. 4, $30	Sept. 4	Sept. 21
Santiago, Silver City, dividend	Payable July 9	
Savage, Virginia, Nev, dividend, $15	Payable July 10	
Sand Spring salt, dividend $1	Payable June 5	
Virginia & G. H. Water Co	Dividend, payable May 15	

*Those marked with an asterisk (*) are advertised in this ournal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD.

FRIDAY EVENING, Aug 21, 1868.

MISCELLANEOUS STOCKS.	Bid.	Asked.
United States Bonds, 5 20s	$ 77	78
Legal Tender Notes	70	70½
California State Bonds, 7s, 1857	93	—
San Francisco Bonds, 10s, 1851	102	103
San Francisco City Bonds, 6s, 1855	—	—
San Francisco City and County Bonds, 6s, 1858	85	—
San Francisco City and Co. Sch'l Bds, 7s, 1866	85	—
San Francisco City and Co. Bonds, 7s, 1862	85	—
San Francisco City and Co. Bonds, 7s, 1864	84	85
San Francisco City and Co. Bonds, 7s, 1865	84	85
San Francisco City and Co. Judg. Bds. 7s, 1863	84	85½
San Francisco City and Co. Judg. Bds. 7s, 1864	83½	—
Sacramento City Bonds	23	25
Sacramento County Bonds, 6s	70	—
Marysville Bonds, 10s	75	85
Stockton City Bonds	70	85
Yuba County Bonds, 10s	75	80
Santa Clara County Bonds, 7s	72	—
Butte County Bonds, 10s, 1859	70	75
San Mateo County Bonds, 7s	75	—
California Steam Navigation Co	65	69
Spring Valley Water Co	65¾	65¾
State Telegraph Co	25	30
GAS COMPANIES.		
San Francisco Gas Co	77	79
Sacramento Gas Co	—	75
RAILROADS.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	76	1—
Central Railroad	82¾	—
North Beach and Mission Railroad	72¾	74
Front Street, Mission and Ocean Railroad	11	12
BANKING INSTITUTIONS.		
California, Loan and Savings Society	—	—
Pacific Bank	97½	100
The Bank of California	151	153
INSURANCE COMPANIES.		
Fireman's Fund Insurance Co	85	86
Pacific Insurance Co	118	—
San Francisco Insurance Co	—	105
Merchants' Mutual Marine Insurance Co	470	483
California Insurance Co	1300	1400
Union Insurance Co	89	90
California Home Insurance Co	—	—
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	79	80
National Insurance Co	—	—
Builders' Insurance Co	90	—
MINING STOCKS—WASHOE DISTRICT.		
Alpha	50	51
Baltimore American	—	—
Belcher	140	145
Bullion, G. H.	18	19
Crown Point	89	90
Confidence	39	33
Chollar-Potosi	157	158
Daney	—	—
Exchequer	18	19
Empire Mill and Mining Co	110	115
Gould & Curry	86	88
Gold Hill Quartz	60	61½
Hale & Norcross	72	73
Imperial	116	118
Kentuck	425	430
Lady Bryan	13	14
Ophir	22	23
Overman	100	102
Savage	112	113
Sierra Nevada	37	38
Yellow Jacket	1180	1190
Golden Rule, California	10	—

San Francisco Market Rates.

Wholesale Prices.

FRIDAY, Aug. 21, 1868.

Flour, Extra, ₱ bbl	$5 75	@	$6 50
Do. Superfine	5 25	@	5 50
Corn Meal, ₱ 100 lbs	3 25	@	3 50
Wheat, ₱ 100 lbs	1 65	@	1 85
Oats, ₱ 100 lbs	2 35	@	2 50
Barley, ₱ 100 lbs	2 00	@	2 75
Beans, ₱ 100 lbs	3 00	@	10 00
Potatoes, ₱ 100 lbs	90	@	1 00
Hay, ₱ ton	10 00	@	15 00
Live Oak Wood, ₱ cord	9 00	@	10 00
Beef, extra, dressed, ₱ lb	8	@	10
Sheep, on foot	3 00	@	3 25
Hogs, on foot, ₱ lb	4½	@	6
Hogs, dressed, ₱ lb	8	@	9
GROCERIES, ETC.			
Sugar, crushed, ₱ lb	14¾	@	15
Do. China	10	@	11½
Coffee, Costa Rica, ₱ lb	13½	@	—
Do. Rio	—	@	17
Tea, Japan, ₱ lb	75	@	90
Do Green	60	@	1 25
Hawaiian Rice, ₱ lb	—	@	8
China Rice, ₱ lb	6	@	6¼
Coal Oil, ₱ gallon	35	@	40
Candles, ₱ lb	15	@	18
Ranch Butter, ₱ lb	40	@	50
Isthmus Butter, ₱ lb	30	@	35
Cheese, California, ₱ lb	13	@	18
Eggs, ₱ dozen	40	@	50
Lard, ₱ lb	13	@	15
Ham and Bacon, ₱ lb	12	@	16
Shoulders, ₱ lb	9	@	10

Retail Prices.

Butter, California, fresh, ₱ lb	50	@	60
do. pickled, ₱ lb	30	@	40
do. Oregon, ₱ lb	15	@	25
do. New York, ₱ lb	35	@	40
Cheese, ₱ lb	20	@	25
Honey, ₱ lb	25	@	30
Eggs, ₱ dozen	50	@	61
Lard, ₱ lb	15	@	17
Hams and Bacon, ₱ lb	20	@	25
Cranberries, ₱ gallon	85	@	1 00
Potatoes, ₱ lb	2	@	3
Potatoes, Sweet, ₱ lb	3	@	5
Tomatoes, ₱ lb	3	@	5
Onions, ₱ lb	3	@	5
Apples, No. 1, ₱ lb	4	@	6
Pears, Table, ₱ lb	5	@	7
Plums, dried, ₱ lb	11	@	13
Peaches, dried, ₱ lb	—	@	—
Oranges, ₱ dozen	75	@	1 00
Lemons, ₱ dozen	1 00	@	1 50
Chickens, apiece	50	@	75
Turkeys, ₱ lb	20	@	25
Soap, Pale and C. D	7	@	12
Soap, Castile, ₱ lb	15	@	16

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

FRIDAY, Aug. 21, 1868.

IRON.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1¾@1¾c ₱ lb; Plate, 1¾c ₱ lb; Pipe, 1¾c ₱ lb; Galvanized, 2¾ ₱ lb.

Scotch and English Pig Iron ₱ ton	$35 00	@	$— —
White Pig ₱ ton	35 00	@	— —
Refined Bar, bad assortment ₱ lb	— 03	@	— —
Refined Bar, good assortment, ₱ lb	— 04	@	— —
Boiler, No. 1 to 4	— 04½	@	— —
Plate, No. 5 to 8	— —	@	— 04½
Sheet, No. 10 to 13	— 04½	@	— 5
Sheet, No. 14 to 20	— 05	@	— 5¾
Sheet, No. 24 to 27	— 05	@	— 6¼
COPPER.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb			
Sheathing, ₱ lb	— 28	@	— 26
Sheathing, Yellow	— —	@	— —
Sheathing, Old Yellow	— 11	@	— —
Bolts	— 21	@	— 22
Composition Satin	— 21	@	— 22
TIN PLATES.—Duty: 25 ₱ cent. ad valorem.			
Plates, Charcoal, IX, ₱ box	12 50	@	13 00
Plates, I C Charcoal	11 00	@	11 50
Roofing Plates	10 50	@	11 00
Banca Tin, Slabs, ₱ lb	— —	@	— 30
STEEL.—English Cast Steel, ₱ lb	— —	@	— 15
QUICKSILVER.—₱ lb	— 55	@	— 60
LEAD.—Pig, ₱ lb	— 7½	@	— 8
Sheet	— 10	@	— —
Pipe	— 11	@	— —
Bar	— 9	@	— 9½
ZINC—Sheets, ₱ lb	— —	@	— 9½
BORAX.—California, ₱ lb	— 20	@	— 23

San Francisco Prices of Copper Ores.

SAN FRANCISCO, Aug. 21, 1868.

We give the following as an approximate price at which copper ores can now be sold in this city. There is no sale for ores which assay less than 12 per cent. The late reduction in price is on account of the advance of freight:

	Per ton.			Per ton.
12 per cent. ore	$16 00	22 per cent. ore		$43 56
13 " "	18 62	23 " "		46 45
14 " "	21 20	24 " "		49 33
15 " "	23 85	25 " "		52 22
16 " "	26 25	26 " "		55 11
17 " "	29 12	27 " "		58 00
18 " "	29 91	28 " "		60 80
19 " "	34 90	29 " "		63 77
20 " "	37 78	30 " "		66 66
21 " "	40 67	31 " "		69 55

These prices, we believe, will be found substantially correct, and can be realized at this date.

NEW INCORPORATIONS.—Articles of incorporation have been recently filed in the County Clerk's office in this city as follows:

HEARST SILVER M. CO.—August 14th. Idaho Territory. Capital stock, $200,000; 1,200 shares, $1,000 each. Trustees: Geo. Hearst, J. W. Mackey, S. Heydenfeldt, L, Sloss and J. W. Gashwilder.

PACIFIO STONE CO.—Aug. 14th. Capital stock, $100,000; 1,000 shares, $100 each. Trustees: F. Holbrook, J. T. Haley, J. F. Miller, E. T. Steen and W. B. May.

UNITED ANCIENT ORDER OF DRUIDS.—Aug. 18th. Capital stock, $90,000; 1,000 shares, $90 each. Directors: Conrad Berghoefer, Jos. Mayu, S. Lion, Jno. Staude, J. A. Maison, Chas. Kittleburger, A. L. Thiele and G. F. Schafer.

Practical Mining and Milling Processes Described

BEAN'S

HISTORY AND DIRECTORY

—OF—

NEVADA COUNTY,

CALIFORNIA.

Containing a complete History of the County, with Sketches of the various Towns and Mining Camps, the Names and Occupation of Residents; also, full Statistics of Mining and all other Industrial Resources.

Also, description of the Chlorine and other processes; Geological Formation of the most noted mines in California, etc., etc.

COMPILED BY EDWIN F. BEAN.

Editor and Publisher of the Nevada Daily Gazette.

Price, $5—For sale at the office of the Mining and Scientific Press, San Francisco. 13v15tf

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BY EXPRESS.—Two cents per copy will be added to our usual rates of subscription (to pay Wells, Fargo & Co's tariff on papers sent by express. If connecting expresses in the interior make additional charges, subscribers must themselves settle the same.

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County.

Markleeville *Miner*, Aug. 8th: Mr. Arnold, the Supt. of the Leviathan mine, came into town on Wednesday, bringing samples of finer ore than before struck. Native copper could he seen all through it, even among the white quartz, and one specimen of hlue hlack ore showed under the glass, unmistakahle eilver sulphurets. One peculiarity of the explorations on this mine ie worthy of notice. In looking ahout for a point from which to run the tunnel five years ago, the party then in charge selected a place where a strong spring of sulphur water hroke out, and as it proved, the tunnel wae run all the way in ledge matter. The first appearance of the hlack ore was at ahout 350 feet from the mouth of the tunnel. This ore assayed from $100 to $2,100 per ton, but it was only in the bottom of the tunnel, and the workmen were unable to proceed further at that time, hy reason of a noxious gas which injured the eyes.

Chronicle, Aug. 8th: Supt. Slaven, of the IXL claim, has just completed the re-timhering of the upper tunnel, and has this week heen getting out some very fine ore. The Pitteburg mill will he ready to commence running on this ore on or about the first of Septemher.

Amador County.

Jackson *Ledger*, Aug. 15th: The new oven at the chlorination works of Coney & Bigelow is nearly completed.

"Old Boh's" claim is increasing every day. The vein is now seven feet wide, and the rock is of a numher one quality.

Work has heen resumed on the old Keystone shaft, nnder the snperintendence of Mr. Moore. The shaft has lain idle for a long time, and the labor of freeing it from water will he great.

Calaveras County.

Chronicle, Aug. 15th: Matthews & Co. have succeeded in getting the water out of their claim, and struck gravel which prospects richly.

Inyo County.

The Independence correspondent of the Aurora *Union*, of August 8th, eays: The mines of Cerro Gordo are richer in minerals than any other district it has ever heen my fortune to inspect, and its citizens seem to he intent upon hringing it into shape to make the "one thing needful." Beaudry & De Sermean will have a large furnace in full operation hy the first of next week. Clark & Mattison will have a large reverheratory working upon the Swansea principle, in three weeks. Belshaw & Elder have graded a fair wagon road from the Lake shore to the upper portion of the town of Cerro Gordo, and are engaged in hauling up a steam boiler and engine, with which to drive the fan for a large blast furnace, which they intend to have running as soon as practicahle—say eight weeks. The miners are husily engaged in extracting ore to enahle the furnaces to run as steadily as possihle.

Mariposa County.

Mail, Aug. 14th: We hear that the prospects of Fine, Harhour & Prescott, at their recently opened quartz mine on the Buckingham Mountain, continue to be of the most flattering character, the vein apparently increasing in richness as they descend on it. We understand that they intend having 100 tons of the rock crushed at a neighhoring mill. If the resnlt is as favorahle as at present indicated, the company will, douhtless, erect a mill in close proximity to the mine.

Nevada County.

Transcript, Aug. 12th: The Channel Mining Co., John Schutchess and others, has located 3,000 ft. of ground in the bed of Squirrel Creek, Rough and Ready township, for mining purposes.

Aug. 13th: The Kentucky Blue Gravel Mining Co. is engaged in prospecting for the gravel channel near Moore's Flat. Last winter the pumps were covered and the shafts filled up. A month ago, Harvey Boono took charge as Supt. The shaft has been cleared, and contractors are now engaged in einking the shaft.

We eaw eome eplendid specimen rock from the Rising Star mine, Deer Creek, yeeterday. It was taken out 410 ft. helow the surface, and is completely studded with gold as bright as coin.

Aug. 15th: Wells and others, of Omega, have located 2,000 ft. of mining ground between the Middle and South Fork of Steep Hollow. The claim is opposite and above the mouth of Cedar Ravine.

While digging for the foundation of a huilding at the Banner mine, on Thursday, the workmen discovered a quartz ledge three ft. wide on the croppings. The rock is thickly sprinkled with fine gold, and the ledge looks like a true veiu.

The Kentucky Blue Gravel Co. are at work hydraulicing, and making good wages about 1,000 ft. from where they are sinking from the channel. The ground through which the shaft is now heing sunk is composed of a sort of gravel or cement peculiar to these channele. Recently the ground has changed, and the miners think they are not far from pipe clay. Should the Kentucky Co. succeed, many new enterprises will be started for the purpose of reaching and opening the same channel that they are sinkiug for.

The sulphuret works of A. F. Burr & Co., near Grass Valley, were destroyed by fire on Sunday last. The property was owned hy A. F. Burr and W. W. Hohart, and was valued at $5,000. The works were insured for $3,000.

Gazette, Aug. 15th: We are informed hy G. G. Visit, just down from Diamond Creek, that several hydraulic companies are now carrying on extensive operations. The claims of Kirtly and some others are reported to be paying largely. Water is ahundant, and in consequence of the large amount of snow deposited in the mountain will hold out to a later period than usual. The ownere of the Salathiel quartz mine are running their 10-stamp mill day and night, and the rock is helieved to he payiug cousiderahly more than expenses. A newly discovered ledge, called the Comanche, near the old Union mill, is now heing opened by Slinger and others, who feel confident of developiug a valuahle mine.

Grass Valley *Union*, Aug. 14th: The Empire Co., on Ophir Hill, is preparing a foundation for their new 120-horse power engine which will he used at the hoisting works. In excavating for the foundation a, quartz ledge was struck, which shows free gold. There is no telling how much of the oro there is in that hill.

The Idaho Co. have just completed a run of 200 loads of quartz from their mine, which yielded $8,000—equal to $40 per ton.

Grass Valley *National*, Aug. 13th: We are informed that about 200 loads of rock from the Idaho Co. has heen crushed, from which ahout $8,000 have been realized.

Aug. 17th: C. McCue informs us that 14 loads of rock, taken from the third level of the General Grant mine and crushed at Forest Springs mill, yielded 70¾ ounces of gold.

Excelsior.—Gold Hill *News*, Aug. 12th: The Empire ledge, in Meadow Lake district, Nevada County, Cal., must be a very rich deposit of gold-bearing ore, if we can judge of some specimens of it which have been presented to us by a practical miner, named Ravell, who took them out of the Empire Co's shaft this spring. We have just had an assay made of one of the specimens, by Mr. August Smolz, private assayer of the Yellow Jacket mine in Gold Hill, which certainly reveals a fahnlous amount of wealth in the Empiré ledge, if the quantity of ore of this descriptiou exists to auy extent—of which there is every indication. The specimen assayed was a piece of ore about the size of half an English walnut, of a yellowish color and porous character, and the yield was at the rate of $93,770.97 per tou in gold. There is a good deal going on at Meadow Lake just now; many of the mining companies doing the annual work on their claims, which is required by the local laws of the district; other companies, now that the snow has melted off, are developiug their claims, and penetrating to lower levels; while the mill companies are preparing to start up, and trying to solve the mystery whether the rehellions ores of the district can he overcome.

Virginia *Enterprise*, Aug. 12th: The Mohawk & Montreal Co's mill, at Exceleior, starts up on next Monday, on ore from the famous mine near hy, belonging to the company.

Placer County.

Auhurn *Stars and Stripes*, Aug. 13th: The mine near Ophir, known as the Peter Walter claim, from which large returne have been realized, was sold last week to Walter Van Dyke, of San Francisco. It is reported that Van Dyke paid $10,000 for the entire ledge, and at that price it is considered a good bargain.

The Gold Run correspondent of the Dutch Flat *Enquirer*, of Aug. 15th, says:

Moore, Miner & Co. have again cleaned up from $1,200 to $1,500, after a run of 20 days. This claim has been bothered a great deal with a very hard bottom, so much so that they have been forced to use powder, putting iu small blasts of from 15 to 40 kegs iu their hard bottom, to heave it up, and loosen it so that they may be able to wash it away faster and easier with the pipes.

Plumas County.

Quincy *National*, Aug. 18th: The Greenville correspondent writes: An opening was made to-day in the Indian Valley mine between the lower tunnel aud the shaft. This will he a great advantage to the mill, saving over 100 feet in hoisting, and running the rock directly into the mill, instead of into the dump-house, as at present, hesides opening an immense amount of ground for stoping. Both the mills belonging to this mine are running steadily and paying well. The New York mill intends to commence operations in a few days.

San Bernardino County.

Guardian, Aug. 8th: The mining interests of Lytle Creek are ahout to receive an additional impetus by the construction of some important works hy Harpending & Co., under the superintendence of Captain Winder. This company will soon commence work on a flume, capahle of containing 600 inches of water, that will tap the creek about three miles ahove Texas point, and be conducted thence to the desired elevation for sluicing and hydraulic purposes. Several of the miners on the creek are doing well. A party of Frenchmen are averaging $40 per day. Two young men prospecting lately made $13 in oue day, and of the surface dirt. They auticipate a good thing when the gravel is reached. That we hear no complaint from the miners of that section, is a very good indication that they are making fair living wages, if not doing even better.

Sierra County.

Downieville *Messenger*, Aug. 15th: Sol. Babb & Co., of Mohawk Valley, have just got water into their diggings, and are reported as doing well.

Dadd & Co., working in Mohawk Valley, just above Bahh & Co., picked up recently a piece of gold weighing four ounces.

Wilhurn, McClelland, Coulson & Miller, found recently in their claims at Mohawk, a specimen containing 20 ozs. of gold.

Siskiyou County.

Yreka *Union*, Aug. 15th: The Scott's Bar correspondent says: The *Cheval Mort* (dead horse) claim, is doing well. It is reported that the top ground has paid $2 per day to the hand from the commencement....The owners of the "Quartzy," Poor Man's Bar, are on the pitch of the rock, and expect, ere long, to strike it hig. Pullin & Co. are rapidly descending toward the bedrock; and Chinese Lone, on the same har, is moving his rigging upon the ground that paid him so well last summer. The wing-dams of Magoffey & Co., Rogers & Co., and those of the different Chinese companies, are all completed, and they aro now pegging away to reach the hedrock. The Ramhoo is progressing splendidly.

Tulare County.

Visalia *Delta*, Aug. 12th: The White River correspondent writes: Mining is progressing slowly at present, there are ouly two parties engaged in taking out quartz. A. J. Maltby is taking out some very rich rock.

The Kernville correspondent writes: Twenty feet from the main shaft, the ledge of the Kern River Co. is five feet thick, and the ore is of excellent quality. All the ore taken from the main shaft and the levels uow heing run, contained $30 per ton. Mr. Wadleigh, Supt. of the Lady Bell mine, informed me that the ore taken out of their new level yielded $100 per foot for every foot they had advanced along the vein.... Ellsworth & Co's mill is now running. It is a 16-stamp mill, and is capahle of crushing 20 tons of ore per day. The mill is supplied with one of Blake's rock-crushers, which keeps the mill going with ease, requiring hut one man to attend it.

Tuolumne County.

Sonora *Democrat*, Aug. 7th: Lucas & Paige have etruck it again in their tunnel and shaft just completed, in the Sultan mine at Springfield. A friend informs us that he saw those gentlemen pounding dccomposed rock, that actually yielded cakes of solid gold, as it came from the mortar.

The Columbia correspondent says: N. B. Green has sold hie quartz vein and gone to the Bay to reside.

Mr. Hiskey's machinery for his quartz mine at American Camp, has partly arrived in this city. He and his partners, Meinhart and Morton, are making extensive preparations to prosecute the work ou the mine. The Grant vein, near the Star mine, will soon he opened again.

COLORADO.

Central City *Register*, July 30th: The high water is interrupting mining operations very extensively, especially in the creeks and on the hare. Iu some instauces har and gulch mining have been stopped entirely. A silver lode has just beeu discovered in Morris District, near Downieville, which promises to rival the largest and richest around Georgetown. It is represented as being quite a large vein, and the surface ore is very rich. A sample tested yesterday gave $993 52 in silver per ton. Messrs. Lowe, of Idaho, and Snyder and others, of Mill City, own it.

A silver ingot weighing 175 pounds came down from Georgetown yesterday.

The Johnson lode has a shaft down soms 30 ft., with ahout a foot of fine looking eurface quartz. Scveral lots of this quartz have been run in arastras, and yielded $240 per cord in gold. The ore carries nearly as much eilver as it does of gold, very little of which is saved in arastras. The Washington, Tom Coleman, Nugget and Jos Mayland are all supposed to he the eams crevice as the Johnson. All show ahout the same width of crevice, same pay quartz, and ahout the same characteristics generally, which are those of a very strong, rich, main vein.

Central City *Herald*, July 29th: Considerahle prospecting is being done on Gunnel Hill. Mr. Wallace Wightman, has made a new discovery north of the Masonic hurying ground, which causes a great deal of excitement....The gold shipment this week, thus far, has been very light. This morning's shipment amounted to $25,880, currency valnation; of this amount the Rocky Mountain National Bank shipped 834 ounces, and Warren, Hussey & Co., 490 ouuces....R. J. White, last evening, cleaned up from his claims, on Russell gulch, a nugget that weighs 500 pennyweights....Sanderson & Co. have started up on the Wilhur lode, Central City district. It is their intention to run their claims night and day....The Pleasant Valley G. M. Co's gulch claims are panning out well. This morning Mr. Owens showed us a nugget, which they cleaned up yesterday, that weighs over two ounces....Hank Neikerk, from Sugar Loaf District, Boulder county, informs us that he is still prosecuting work on the U. S. Bank lode. He says there is but little work goiug on in James Creek. John Virden is running two arastras on surface quartz, which is yieldiug from $80 to $100 per cord.

OREGON.

Jacksonville *Sentinel*, August 8th: Funck & Cummins are having rock drawn from their lead, on the left hand fork of Jackson Creek, to the Occidental Mill, which commenced crushing yesterday.

The Walla Walla *Statesman* says: Mr. W. F. Jones, of Walla Walla, has left with us several specimens of gold bearing quartz, taken from a ledge which he discovered on Burnt River, a short time since. The epecimens are quite rich, and indicate an important discovery.

Dalles *Mountaineer*, Aug. 7th: On the 2d day of July, Hastings, Oshorn and Frishy left this city on a prospecting tour for gold mines in the Cascade range, north of the Columbia river. They prospected White Salmon and all the small streams in the neighborhood of Mts. Adame and St. Helens. The result of this trip has eatisfied the parties that the country contains gold-bearing quartz, bnt they were unahle to find any indications of placer mines.

The news from Elk, Olive, Granite and Burnt River is unimportant. Considerable excitement is manifested in reference to the new diggings on the head of Burnt River, which is destined to be a camp of considerahle importance. Granite and Olive are yielding fair wages, but will soon he owned and controlled by Chinamen. At Elk the only feature of interest is quartz. McQnade & Co. will commence crushing in a few days, which will test the value of the rock in that camp.

Nothing definite is yet known in relation to the Malheur and Stein's mountain diggings.

DACOTAH.

The Central City (Colorado) *Register* of Aug. 8th, says: The paper etarted in the new mines known as the Sweetwater Mines is defunct. The mines themselves will soon be abandoned unless something is discovered.

IDAHO.

Owyhee *Avalanche*, August 8th: This week, we took a trip among the mines, and found increased evidence of prosperity. Everywhere we noticed preparatione actively going on for extensive miniug operations, which have commenced and will continue without interruption during the coming winter.

Mr. Shiveley has commenced work on the Boomerang, and besides prospecting it, ho will take out ore for milling purposes. A number of cuts have been run across the ledge, and two shafts sunk to a depth of about 12 feet. In some places the quartz shows a width of from four to six feet. Some of the surface rock shown us was literally sprinkled with gold.

The Ida Elmore mine continuee to keep

e Lincoln mill in operation. Large nounts of bullion are turned out.

Rich gold bearing quartz has again been ruck in the south drift of the Woodstock, 10 feet from the surface. A contract has ›en let for running a drift 60 feet south om the bottom of the north shaft. Work also progressing in the north drift. mith's arastra at Ruby is now running on Voodstock ore.

Mose Lyon and party have discovered a ammoth quartz ledge, three or four miles › the northeast of Wagontown. It is said › be from 12 to 18 feet wide, and traceable ›r two miles. They have christened it the Avalanche," and have brought in some of ıo rock for the purpose of getting it assayed.

Extensive improvements have been made n the Golden Chariot during the past ionth. The Upper Sinker mill is now runing on Golden Chariot ore, and will continue to do so all summer.

Peck & Porter are vigorously pushing ›rward work on the second extension of ıe Oro Fino. A shaft is being sunk on ıe ledge, which is from 18 inches to two ›et in width, and yields a good quality of ıilling ore. Quite a large amount of quartz ıs already been taken out.

The Oro Fino will soon be in proper ıape for taking out heaps of ore. The ſorning Star whistle will soon be heard ;ain.

The Webfoot mill has been thoroughly ›paired, and put in good working order. he mill will commence working Woodock ore in a day or two.

Work is still rapidly progressing on the ilenbrook mine. We noticed on the dump larga pile of good-looking ore, which will e worked in a few days.

MONTANA.

Helena *Post*, August 7th: A large gold rick, weighing 962 ozs., and worth $17,-51.24 in coin, was smelted by Mr. F. Bohm esterday, and shipped East on Wells, argo & Co's stage.

At the assay office of Mr. F. Bohm there as smelted yesterday gold dust of the value f $13,000, coin. The largest bar had a oin value of $5,000.

Considerable money is being taken out at iegan. On Wednesday last, the Piegan ›itch and Water Co. cleaned up 100 ounces fter a run of two weeks with from seven to ight men working on bedrock. Their lean up before this last, resulted in 200 ozs. f gold after a three weeks' run. Still bet›r results are expected, as the mines inrease in richness the further they are fol›wed up the gulch.

The new Basin Gulch diggings in Boulder Valley, are proving more extensive than was t first supposed. As far up as claim 31 bove discovery, the ground is found to ay, on an average, five cents to the pan, nd on No. 34 below discovery, nine feet of ravel pays from eight to ten cents to the an. The claim below discovery containg 600 feet, was sold one week ago for 1,500. It is reported that $15 has been bt ained from one pan of dirt taken from edrock in claim No. 1 in the Eureka disrict. D. L. Lewis gives us the following ems: Williams & Co. are working to a disdvantage at present, but are making about 11 per day to the man. Lewis & Co. are ngaged in running a drain ditch and obaining excellent prospects. It is thought hat, for a distance of three to five miles, the round is equally as good as that of Last Chance Gulch below No. 8. The gold is venly distributed and very fine. Claims re selling generally at from $200 to $500.

The gulch upon which Helena is situated, s by no means worked out. Not only are Messrs. Taylor, Tompson & Co. making normous runs, but other parties are doing ell. Messrs. Baker & Brisbee, with 35 ien, are cleaning up about 100 ounces per eek. C. B. Hunt's claim took out 38 ozs. f gold for the week ending on Saturday ight last. They had 10 men at work dur›g the week. One-half of the Union Co's ulch claim, consisting of 700 ft., and situ›ed one mile below the ground of Messrs. Taylor, Thompson & Co., was sold to Chinaen last week for $6,000. The project for utting a bedrock flume in Last Chance ulch will be revived as soon as Col. Truett eturns.

Fears are entertained that the results anicipated from the Poor Man's Joy lead cannot this season be realized. A close examnation of the ore shows that it contains rom five to ten per cent. of lead, besides a arge quantity of copper, arsenic and antiıony, and it is thought that the presence of he base metals in such proportions may so nterfere with the process of amalgamation, hat it may become necessary to send to the States for the latest improved and expenive machinery.

The mill of the St. Louis & Montana Co. t Phillipsburg, cleaned up $3,000 in bullion on Friday last, the result of a run upon 30 tons of rock from the Hope lead. Three hundred tons of a similar quality is already on the ground, and will soon be crushed. Work upon the Rumley & Bugher ledge is being actively prosecuted.

Many of the stampeders are returning from Wilson's Creek, and Basin and Galena Gulches, and more work is being done at Radersburg than for some time before. The opening of claims on Badger Bar and Bay Horse Hill is actively progressing. McBride & Co. about 10 days ago, cleaned up $1,500 from the first mentioned mines, after a run of 10 days with one hydraulic. Charity Gulch is paying well. A new bar was struck a few days since in Blacker's Gulch, which is paying better than any mine yet discovered at the Radersberg Camp. The gold is generally coarse, and nuggets weighing $2.50 are found.

The right hand fork of Dry Gulch is being energetically worked throughout its entire length and good pay is being obtained. ....On Big Indian Gulch the number of claims worked is limited, but the few which are being mined are yielding well. Quartz mining at the head of the gulch is being actively prosecuted....Tucker Gulch is paying well so far as worked....In Clark's Gulch a gang of Chinamen are making good wages with rockers. Parties working near them are obtaining from $4 to $6 per day by the same method of working.

The Deer Lodge *Independent* says: A 22-ounce boulder, containing about $325 in gold, was taken out near Silver Bow recently....Recent developments show that the Pioneer and Gold Creek diggings are much more extensive than at first supposed. Rich mines have been struck in two places, two or three miles this side of the main Pioneer Gulch, which promise as large a yield as any of the ground yet worked in that vicinity....Silver Bow is paying better than ever before. Donovan & Driscoll are ground-sluicing an extensive bar, at the lower end of the mines. A large area of mining ground below the town will pay from $4 to $8 per day to the hand. The mines of Smith, Simpson & Nuvenbury, near Silver Bow, are paying about $18 per day to the man. The Prairie diggings, pay good wages, in some instances as high as $50 per day to the man. The gulch below is yielding from $18 to $20 per day, with a scarcity of water.

NEVADA.

Esmeralda.

Aurora *Union*, August 8th: Forty-five hundred pounds of rock, from the Pacific, was brought to town and worked this week, yielding over $400.

Humboldt.

Winnemucca *Argent*, August 13th: J. M. White brought 2,508 ounces of ore from the Goleonda mine, for shipment, on Saturday last. Mr. White presented us with 8 rich specimens from the Goleonda, which are true representatives of the various kinds of ore now coming from the mine. No. 1 is nearly regulus—probably 85 per cent. metal, color dark, and piece somewhat porous. Nos. 2 and 3 are similar, having heavy black mineral, some of which is nearly like powder and soot, with a red ocherous substance in strata. These pieces are about 75 per cent. metal. Nos. 4 and 5 bear the same general features. They are of a light yellow color, tinged with green, and are of much less density and more crumbly nature. No. 6 is composed of black sulphurets intermingled in a mass of soft, grainless clay, which is solidified by exposure to the atmosphere. The tallowy stuff is precisely the same as that obtained from the famous Poorman of Owyhee. Specimens 7 and 8 combine substances described in the others.

A private letter, dated Orena, August 5th, says: Montezuma smelting works, together with the entire Montezuma mine, sold some time since by the Trinity & Sacramento Mining Co., were turned over to the new proprietors, the Montezuma Mining Company, on the 1st instant. Furnaces are working splendidly—never did better work.

Reese River.

Austin *Reveille*, August 7th: There is no longer any doubt that the mines of Treasure Hill, in the district of White Pine, are situated in Lander county.

Yesterday afternoon, some 3,000 ounces of bullion were brought into the city from Rigby's mill, in the district of San Antonio.

August 11th: Since the repairs were completed on the Manhattan mill, about the first of the present month, it has been employed in reducing various lots of ore from Lauder Hill and the district of White Pine. The lots are generally small, but of a very high grade of ore. It may be fairly doubted if there ever was a mill before that worked such a variety of ore in so many different lots as the Manhattan does each month.

The sixteen bars of bullion, which were brought into this city from the district of White Pine on Saturday, formed as handsome a lot as we had seen for many a day. The bars ranged from .885 to .944 fine, and their total value was $21,360.21. They were produced at the Centenary mill, in the district of Newark, and were mainly from ore obtained from the Eberhardt South on Treasure Hill, in White Pine. The bullion was shipped through the banking house of John A. Paxton & Co.

August 12th: This morning, a small lot of 700 ounces of bullion were brought into the city from the district of Washington. We believe it is the first product of the mill of the Utica and Herkimer Co., recently completed in that district.

August 14th: A private letter from the district of White Pine gives information of a rich strike in a claim called the Blue Bell, situated above, but near the famous Keystone and Eberhardt South. The ore is said to be very rich, and equal to that produced by either of the above. The Blue Bell belongs to some of the owners of the Keystone.

The *Mountain Champion*, of Belmont, has learned that the mill of the Silver Peak and Red Mountain Co. was running successfully, and that a large shipment of bullion, valued at $100,000, would soon be made. Clayton's improved crusher, which forms a part of the battery of the mill, is pronounced to be a complete success.

Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Virginia *Enterprise*, Aug. 12th: The mills about Silver City, many of which have been for sometime lying idle, are again starting up, and the town is beginning to assume quite a brisk appearance. Uncle Joe. Trench's fine large mill, at the lower end of town, resumed crushing day before yesterday, working ore from the Savage mine. This mill alone will give employment to quite a number of men. The company working the Twin mine, at the upper end of the town, are sinking three shafts upon the lead, and at one of these are preparing to erect hoisting works, the engine and much of the machinery for which is now on the ground. The company are employing 20 or 30 men about the mine, and are taking out 10 to 15 tons of ore per day that will yield from $50 to $60 per ton.

The new Sierra Nevada 20-stamp mill will, as we are informed by Mr. Robert Apple, the Superintendent, be completed this week, and will start up next Monday on ore from the mine of the company. They now have out upon their dump, to commence with, some 2,000 tons of ore, which it is thought will at least pay $25 or $30 per ton. Mr. Apple is quite confident that he can mine and crush this ore at a cost not exceeding $2 per ton.

Aug. 14th: The total shipment of bullion for the past week from this city and Gold Hill, was 7,094 pounds, worth $192,466.67.

Gold Hill *News*, Aug. 11th: Baldwin district, west of Walker Lake, contains some very promising ledges, apparently rich in the precious metals, some of the ore assaying as high as $900 to the ton in silver and gold—principally silver. It also contains a sufficient quantity of lead to flux it and make it work easy.

The Savage Co. have struck a very promising deposit in their sixth level, in which they find a considerable amount of milling ore. Although the great mass of the ore is of a grade too low to pay for milling at the present cost, it is hoped that it may grow richer as it is further developed. It is about 100 feet further north than where they have lately had any ore in the mine; therefore it is looked upon as a very promising indication.

August 12th: The Imperial Consolidated Mining Co. this morning dispatched a company of workmen out to their mine in New Truckee district, 65 miles east of Virginia City, to commence taking out some of their rich argentiferous galena ore, preparatory to having it transported over the railroad to Reno, and from thence hauled to the smelting works at Galena, Washoe County.

There was shipped from Wells, Fargo & Co's Gold Hill office this morning, 10 sacks of bullion, weighing 775 pounds, and of the assayed value of $18,932 43.

The Gold Hill Branch assay office of E. Ruhling & Co. received this morning for melting and assay, 2,605 ounces of crude bullion.

C. Wiegand & Co., of Gold Hill, received this morning for melting and assay, 2,321 ounces of crude bullion.

The Pacific Union Express shipped last night ten bars of bullion, valued at $18,-714 99.

WASHINGTON.

The Olympic *Transcript* says: The beach mines at Gray's Harbor are now being worked profitably. They yield $5 a day with a Long Tom. Wells sunk some distance back from the beach show that pay is generally distributed through the surrounding country. Our informant intends to prospect in the neighborhood, and if the reports are verified, will erect machinery such as is used in Gold Bluff, California.

The Wine Interest of California.

[The following article is forwarded to us by a writer who has the interest represented at heart, and who is also familiar with the process mentioned for its great improvement and speedy advancement.]

To raise the wine industry of California to what its climate destines it to be—the first wine-growing country on this continent—as it has been plausibly represented, requires a radical reform, as well in the mode of working the wine, as the entire system observed. As long as we have to store wine for two, three or more years, till ripe and saleable, we cannot compete with other wine countries, however pure and good our product may be. "Quick sales and ready profits" is the watchword in all industry. The present mode of fermenting the wine, by exclusion of air, does not permit it; that mode, violating nature's plainest directions, has had its days, though they numbered two thousands of years. It has been proved now, and everybody can demonstrate it for himself, that fermentation is an oxidation process, requiring the oxygen of the atmosphere applied to every part of the substance to be thorough and complete. Therefore, the adoption of the mode of impelling air into the fermenting substance—patented by R. d'Heureuse, of San Francisco, August 6th, 1867—is an absolute necessity for all wine-makers. By it the wine obtains, with a speedy and perfect fermentation, full stability and ripeness in a few weeks after it is made, is free from all earthy taste, and ready for shipment to any part of the world the same season it is made.

But this alone, though essential for profitable wine manufacture, is not sufficient. As in all other industries, the manufacture should be a separate branch, independent of the grape-growers, from whom the grapes should be purchased by manufacturing establishments of sufficient capacity in all grape-growing districts. The wine and brandy will be thus obtained more economically, and, under proper direction, superior to that done more expensively in small lots.

This rule of division of labor alone has given satisfaction in all other branches of industry, and is finding its way also in the wine districts of Europe. California cannot do without it. The force of the argument has been admitted by reflecting men of this and other States. No time should be lost in the formation of companies, with capital, for the purpose of erecting proper establishments for wine and brandy-making in the various wine districts, to contract for the purchase of grapes and sale of their product, which are readily taken by the best wine-dealers, if properly air-treated in the manner indicated. Fifty per cent. and above, on the money invested, it is claimed, will be the profits of a few months' work. All these hundreds of small vineyards, now rather a loss than otherwise to their owners, might become profitable to them, if they confine themselves to the sale of their grapes at 75 cents or $1 per 100 lbs.; and thousands of others to be planted will rapidly increase the common wealth of the State, giving happy homes to thousands of industrious husbandmen. Wine is the only bulky product of manufacture which in this State will find constantly a market in unlimited quantities, with fair profit to all concerned. Properly promoted in the direction indicated, the annual wine production in a few years will exceed the value of the production even of the precious metals of California in her palmiest days.

Wine-growers, and all those interested in the prosperity of this country, and those looking for safe, profitable investment in industrial, not merely speculative pursuits (for honest industry ceases where wily speculation steps in), should lose no time in acting on this suggestion.

BULLION BRIDLE.—A bridle was received at the Exhibition to-day, which is made of silver bullion, weighing four pounds, and which cost $550. It was made for Col. Curry, of Carson City, and was intended for a present to President Lincoln, before the news arrived of his assassination, but was then presented to a citizen of San José.

Mining and Scientific Press.

W. B. EWER,.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

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WRITERS should be cautious about addressing correspondence relating to the business or interests of a firm to an individual member thereof, whose absence at the time might cause delay.

Our Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866

Dr. L. G. Yates is our duly authorized traveling agent. July 6, 1867

Mr. A. B. Butler is a duly authorized traveling agent and correspondent for this paper. July 15, 1867.

Resident Agents.

CENTRAL CITY, C. T.- Messrs. Richards & Crane, of the City Book Store, Main street, will act as our agents.

GEORGETOWN, C. T.—John A. Lafferty, Postmaster, is our agent in this place.

DENVER CITY, C. T.—Messrs. Woolworth & Moffat, are our agents for this place.

CHEYENNE, D. T.—Mr. Robert Beers is our authorized agent for this place

OMAHA, N. T.—Messrs. Barkalow & Brothers, are our agents for this place.

Notice.—The partnership of C. W. M. Smith, W. B. Ewer and A. T. Dewey, has been dissolved this day by mutual consent. The Patent Agency and Newspaper Business of the MINING AND SCIENTIFIC PRESS will be continued under the firm-name of Dewey & Co., by A. T. Dewey and W. B Ewer.
San Francisco, August 1, 1868.

San Francisco:

Saturday Morning, Aug. 22, 1868

Notices to Correspondents.

HÆMATITE, Downieville.—The discovery of fossil, of carboniferous age, said to have been found amidst the celebrated hæmatite ore deposits of High Furness, Lancashire, England, from which such enormous quantities of Bessemer steel are now being annually made, has recently been disputed. Mr. J. P. Morris, in "The Furness, Cartmel and Grange Visitor," publishes a very elaborate paper on the subject, in which, as far as we can perceive, he utterly demolishes the theory first put forth by Mr. E. W. Binney, that of certain lithological specimens, one was a *Stigmaria*, and the other a Lepidodendron; the theory being that "these plants must have floated in with the water which brought the iron, or else they must have fallen into the cavities when such were open at the top, and the iron was in a soft state." Mr. Morris has very satisfactorily shown that the deposit (at Water Blain, where these supposed fossils were found,) is of silurian, not carboniferous age—a fact strongly corroborated by the circumstance that, like silurian deposits of hæmatite in other parts of England, the one at Water Blain contains a considerable amount of silica, which substance is only found in very small amounts in the ores lying in the carboniferous or mountain limestone. Mr. Morris has shown that the presumed fossils have in no case been found horizontally placed, but always vertically or approaching thereto, notwithstanding they are deposited in an evidently aqueously-formed bed. Mr. Morris pretty clearly establishes the point that the supposed vegetable fossils were *fulgurites*, commonly called thunderbolts, similar to those described by Sir G. Duncan Gibb, Bart., in the "Geologist" for May, 1859, in a paper entitled "A Chapter on Fossil Lightning." It is to be regretted that Mr. Binney should have somewhat tarnished his justly high general reputation as a geologist, and especially so upon subjects relating to the carboniferous period, by hastily adopting a theory respecting the fossils in question on what we are bound to consider as insufficient evidence after carefully perusing Mr. Morris' paper.

ADAMANT, SIERRA CO.—The cause of the variety of hardness found as a property of different bodies, is not well understood. Even in the same substance very trifling variations in the external circumstances to which the body is subjected often produce extraordinary differences in the degree of hardness which it exhibits—the difference of hardness occasioned by the slow or rapid cooling of steel is an instance illustrative of the fact just named, which is familiar to almost every one; still greater, however, is the variation which occurs in the case of carbon in its three well known forms, of charcoal, graphite and diamond.

Eclipse of the Sun.

The most important total eclipse of the sun which has ever taken place, in any age, occurred on Tuesday; invisible, however, on this hemisphere. From a peculiar coincidence of favorable circumstances, the duration of the total eclipse will be prolonged nearly seven minutes—6m. 50s.—a longer time than the sun has been obscured by an eclipse for the last three or four thousand years, and longer than any which can occur so far as eclipses have been calculated for the future—about 400 years.

Great preparations have been made to render the observations connected with this eclipse as perfect as possible. One of the most important points which it is hoped may be elucidated, is the cause of the hitherto inexplicable perturbations of the planet Mercury. It has been suggested that these disturbances are caused by an undiscovered planet inside of the orbit of Mercury. But no opportunity has yet occurred for a thorough search within that astronomical field, on account of its nearness to the sun, and the constant brilliancy of that luminary. It is hoped the present eclipse will afford the opportunity for a thorough search for this supposed planet.

The shadow of the moon will first reach the earth upon the little island of Perim, at the entrance of the Red Sea; passing thence southwestwardly, the eclipse will be total at the port of Aden, on the Arabian coast, from whence its track will cross the Arabian Sea, the southern portion of Hindostan, the peninsula of Siam, the islands of Borneo, Celebez, and finally vanish away upon the island of New Guinea. The moons shadow will sweep over a stretch of some 3,000 miles in length, by a breadth of about 30 miles.

CALIFORNIA PAPER MANUFACTURE.—S. P. Taylor & Co. display a very fine assortment of paper manufactured at the Pioneer Paper Mills, Taylorville, Marin county, which is a decided credit to the State. The assortment consists of hook, news, blue, yellow, pink and green printing paper, and Manila wrapping paper of an excellent quality from the largest to the smallest size. These mills have been in operation twelve years, showing conclusively that paper *can* be manufactured on this coast, notwithstanding the strong competition naturally met with from importations. To-day many of their goods are sought for in preference to Eastern. Messrs. Taylor & Co., as agents, also exhibit a first class straw wrapping paper from the San Lorenzo Mills, Santa Cruz.

We are pleased to learn that there is in course of erection, in this State, two other mills: one at Point Arenas, Mendocino county, which will soon be ready to start; the other at Saratoga, near San José. Another mill is also about ready to start in Oregon. It is probable, when all these mills are in operation, we will, for the most part, be independent of other markets for this staple. There is an abundance of raw material to be had cheaper than in New York, and the vast quantities of rags sent there will find a market at home, and will contribute largely to our wealth, manufacturing interests and independence. Home manufactories of such a class should receive preference by all consumers. It is the true method of bringing down prices.

THE PACIFIC ELASTIC SPONGE COMPANY. We would call attention to the advertisement of the Elastic Sponge Co., which will be found in another column. After a trial of over four months on this coast, it appears that all articles made of that material are giving universal satisfaction. For cleanliness, purity, and cheapness, it cannot be equaled or excelled by any material now in use; and we are happy to know that the success of the company is gratifying, while their trade is rapidly increasing. To all visiting the Mechanics' Fair, we would suggest that they should by all means take a look at the exhibition made by this company, and there witness the truly delicious articles of upholstery manufactured from elastic sponge.

PATRONIZE HOME MANUFACTURES. — Scarcely any Californian who visits the Fair, but feels some pride at the really surprising exhibition of the products of our local factories. If everybody who thus glories in the progress of the State, and considers it something to be a Californian, would patronize our home manufactures, this progress would be greatly accelerated. Capitalists, artists, inventors, and workmen, as a matter of course are pleased when a discriminating public approve of their work; but such approbation is of little value as an inducement for the investment of capital and skill, unless it be accompanied by the solid benefit of business. Manufacturers want customers to buy their goods. The exhibition at the Fair derives its chief attraction from the enterprise of manufacturers displaying their goods, for the purpose of securing customers—the Fair being really a large and effective advertising medium. If manufacturers be a benefit to the State, it is the duty of the citizens to patronize them. It is not a wise economy that starves the local manufacturers, or dwarfs their operations, because imported goods of a similar character can be purchased for a few cents or a dollar or two less. Enterprise were impossible under such a system.

There are some persons who argue that it is extravagant to consume expensive articles of clothing, furniture, etc. Such an argument is true, if the poor, to keep up appearances, run in debt for such purpose; but it is false and pernicious when applied to the wealthy. The rich cannot better distribute their surplus cash than by encouraging design and skill in the working classes. Money thus expended is far better applied than if it were devoted to a society to sustain the families of the workmen in idleness.

If the wealthy classes of San Francisco were to purchase every article of local manufacture on exhibition, and use them up, the money thus invested would return a greater interest, in the way of encouraging immigration, and increased value of real estate, than if loaned at one per cent. per month.

CAUSE FOR CONGRATULATION.—We are not of those who think "self praise is no recommendation." We believe that those who have ability, should let the world know it. One of the chief causes why mediocrity so often distances merit, in the race for riches, is because merit is generally too modest—"hiding its light under the bushel" of self-conscious superiority. We see no reason why the people of California—a State so young in manufacturing industry as to be scarcely recognized by the world in that connection,—should not congratulate themselves at their success in competing with the older countries in the manufacture of a great many of the most important articles required by themselves. It is something to feel honestly proud of, to see so many medals won in foreign fields, appended to articles made and designed in California. We do not think much of the citizen of the State who does not feel at least a tinge of pride to know that California manufacturers won prizes at the World's Fairs in England and France, in departments most hotly contested by the manufacturers of the whole world! If our State has achieved such distinction, despite the tremendous obstacles of high wages, scarcity of skilled workmen, and opposition of importers, what may it not accomplish when such obstacles shall be removed? The display of home manufactured goods at the present Fair, is the best answer we can give to such a query. This display we consider such as to furnish cause for congratulations to every Californian.

A LARGE FILE.—The Pacific File Factory has a case of files on exhibition, and also a variety of reaper and mower sections, which speak well for the skill of the proprietors. Among the former is a file of mammoth proportions, represented to be as large as any other in the world, made for practical use. A very large amount of business is done by this establishment in recutting old files, by which process they are made as good as new, with a saving of nearly fifty per cent. Give them a call at No. 53 Beale street.

CONTINENTAL Life Insurance Company, 302 Montgomery street, corner of Pine.

[From the Mechanics' Fair Daily Press.]

Things Here and There at the Fair.

As your regular reporters of the conditien of things at the Fair, now going on with such success in our city, continue to give general reports of the marvellous things to be seen on exhibition, it will only be necessary for me, on this occasion, to allude to a few of the evidences of mechanical skill and improvement to be found in that vast collection of rare articles, that have been brought to my immediate attention.

The show of agricultural and horticultural productions is very meager—a few simply, of dairy products, of choice fruits and flowers; one or two pretty little models of ornamental gardens—constitute the principal features in this department. But this is not intended as an exhibition of the products of the earth, so much as an exhibition of the mechanical skill of our young and growing State.

But the show of mechanical farm implements is very creditable. There are, besides that real curiosity, the Steam Plow, which, by the way, had not a very fair chance to display its powers and advantages in the hard packed soil in which its experiments were made outside the Fair Building, various other plows claiming public attention.

Among these we noticed the Sweepstake Gang Plow, which claims superiority by reason of its simplicity of construction, rendering it little liable to get out of order; by its rising square out of the ground, retaining the same relative position as when in the ground; by the small weight to be raised, and the small power required to raise it; by its ready capability of adjustment to the required depth of plowing; and by its portability. It will plow from two to ten inches deep, and do better work than single plows. Extra parts can be obtained at the factory at any time. The draft is very light, and any boy of *ten* can readily plow with it.

There are several other gang plows that appear to be worthy of attention, among which we may mention that of J. & J. Ingham, of San José, a California invention. [We may here add that this plow will be illustrated in a few days.—EDS. PRESS.]

The Buckeye Mower, Reaper, and Self-Raker, attracts deserved attention. These machines have been long and successfully in operation, and have, we believe, been lately improved, so as to make them still more acceptable to the farmer. They are great labor-saving implements.

The American Spring Bed seems to be quite an improvement on the old style of bedsteads. So, also, the Elastic Sponge Bed—a new application of the sponge to domestic purposes. It seems a decided improvement on beds made of hair, pulu or feathers.

But all these things must be examined to be understood.

Prevost's cocoonery commands, as it deserves, universal attention. Silk is destined to be one of the staple products of California. AGRICOLA.

A NEAT IMPROVEMENT IN DESKS.—We noticed in the Fair, a combined book-case and desk, built by Johnson & Best, cabinet makers, 717 Market street, which in some respects is a decided improvement in this class of manufactures.

It will be impossible in the absence of a wood-cut, to set forth the advantages of this new style over those in ordinary use, so as to make them clear to the reader; but any interested should ask for the key and examine it for themselves.

There is a triple movement, caused by pulling out the drawer in the center, which forms the desk used for writing, at the same time rolling back the top of the drawer to be out of the way, and turning down by the same operation the door of the smaller drawers or pigeon-holes, leaving them open, and immediately in front of the writer.

This secretary is eleven feet in hight by six feet or more in width, made of black walnut, finely finished, and is an object worthy of notice aside from the valuable improvement we have attempted to describe.

REMOVAL.—Our friends will please bear in mind that the MINING AND SCIENTIFIC PRESS Office, Patent Agency and Job Printing Office has been removed from 505 to 414 Clay street, about half a block below Sansome.

[From the Mechanics' Fair Daily Press.]

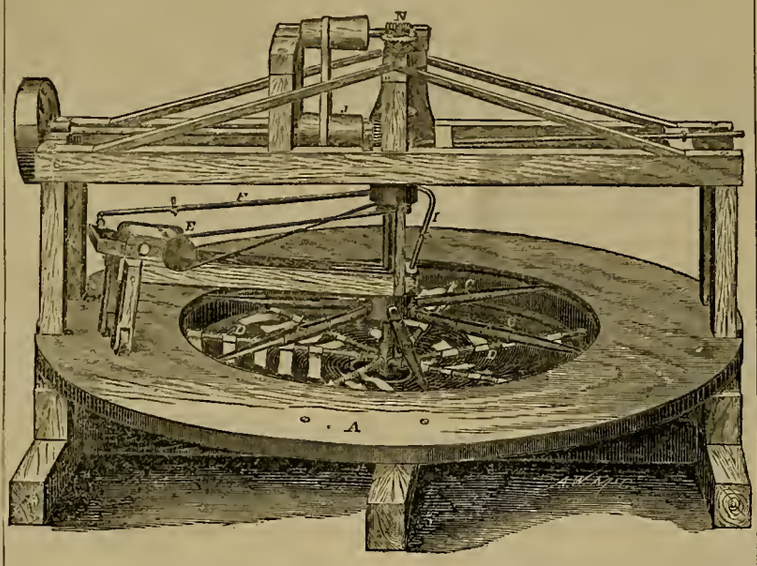
Institute Meetings for Discussion.

It was proposed some time ago—and the matter has been duly considered and determined upon—that semi-monthly or monthly meetings for the discussion of subjects touching the mechanical, mining and kindred interests of this coast, should be commenced under the auspices of the Mechanics' Institute, and kept up as a tangible working attachment to that institution which will tend to render its usefulness more particularly effective, as well as general to the Pacific States—in a manner similar to the stated public meetings for discussion which have risen to national importance, under the auspices of the American Institute. Mines and mining machinery will naturally take a leading position amongst the subjects which will recur frequently for discussion; and those who have been engaged in mining personally, or are interested in hearing comparisons made as to the economy or efficiency of different methods and means in mining practice, or in the discussions which will follow freely thereupon between persons who are practically posted, will render Mr. Hallidie and the live men of the Institute all the assistance in their power toward making these meetings one of the features of the public life of this metropolis. Our bronzed and horny-handed acquaintances from the mining districts of the foothills, as well as from Nevada, Arizona, British Columbia and Idaho, who come to town always with beaming eyes, and a wholesome manliness in their behavior, will "let up" on the theaters when the Institute meets, and will drop in and compare notes with others of the same stamp, who are fortunate enough to possess ideas. Metallurgy, agriculture, wine-making, etc., will not be beyond the scope of these meetings. The benefits that may result from the inauguration of such an "institution" to keep sight of our peculiar interests, cannot be over-estimated. The right men are now wanted to come up and assist. Owing to the great amount of work and care on hand in connection with the Exhibition, the commencement of the meetings has been deferred till the close of the Fair, when further notice of the matter may be expected through the newspapers.

ADDITIONAL ENTRIES.—About twenty articles a day, on an average, are now admitted at the side door, for exhibition merely, and gladly received, but they are not entered for competition or premium. The principal bother now, says the Entry Clerk, is about getting little articles out, which is frequently desired for temporary purposes, and there is always difficulty when they have not been entered *pro forma*. On Monday, Tuesday and Wednesday of this week, the following noteworthy entries were made: A glass case of paints and oils of California manufactnre, by Mr. Terryn; a new kind of velocipede of California invention, by Chas. A. Way; a "fertilizing tube" for the application of fluid manure to roots at a little depth; California salt, by Holliday & Brenham; an equilibrium steam engine, by Mr. Wells; samples of California olive oil, by E. Louis; Mrs. Curtis' improved method of cutting dresses, by Mrs. Barringer; an improved railway car, to prevent accidents on railways, by Dr. Beers; some Circassian dog-hair overcoats, from Alaska, by Wm. Clayton; Kellum's spiral buggy springs; monitor safes, by Jonathan Kittredge; glass case of copper ores, from Planet mine, Arizona, by Mr. Baldwin; a combined swimming apparatus and life-preserver, by Mr. Olsen; a concealed door spring, and reversed joint butt, by the Barker Spring and Butt Company; a gear drill, by Alfred Swingle; a buggy with detachment to prevent horses from running away, by Mr. Moore; a hullian bridle, by Mr. Beatty; samples of tweeds, wineys, cotton goods, shirtings, sheet drillings, and overshirts, all of California manufacture, from the Oakland cotton mills; a large painting of a family group, by a Chinaman; section of the foundation of a railroad bridge, by Wm. Durber; argentiferous ore, from the Morning Sun ledge, by Mr. Cave, for R. P. Slade; photographs and drawings from Shubrickville, illustrating the engineering exploits by which the revenue cutter Shubrick was saved from destruction; and Varney & Rix's rock-breaker, which may be seen in operation this evening.

PAINE & STEPHENS'
IMPROVED CONCENTRATOR,

For Saving Gold and Silver Sulphurets.



This invention, a perspective view of which is given above, consists in applying machinery to the ordinary buddle, and rendering the same automatic in action. It is calculated to do a large amount of work.

One Machine, costing about $1,400, is sufficient to work the Sands from 25 to 30 Stamps. But very little power is required.

It can be easily run by one man turning a crank. The principle on which it works is entirely dissimilar from any other machine now used on the Pacific Coast; although it is in almost universal use in Europe; but not so arranged there as to be automatic in action.

The illustration given herewith, was fully described in the Mining and Scientific Press of March 21, 1868.

One of these machines may be seen in constant operation at the Eureka (Watt's) mine in Grass Valley, where it is giving the fullest satisfaction, and is working all the tailings from thirty stamps. Another machine may be seen at the Banner mill, in Nevada, and a third below the Gould & Curry Company's mill, near Virginia City.

For further information, apply to THOMAS N. PAINE, Grass Valley, California.

PAINE & STEPHENS.

13v16eow

ON HAVING EMPLOYMENT.—No one has the right to complain of a want of employment of the kind he desires, unless he can make himself a necessity, and his services a desideratum, without which the employer cannot profitably get along. It is easy for any person of intelligence to become an expert in some particular art, trade, specialty or hobby, which he has pursued merely for his own pleasure, and at the same time to put himself and his acquirements into the category of financial desiderata. Young men may as well start off on the right principle; they will then work with enthusiasm, because it is a pleasure to them, and there will be somebody to derive a proportionable benefit from their assistance. "A knowledge of the means by which art and labor may be most successfully employed in the several departments of industry," is the definition given to those acquisitions which render the intelligent expert useful to his employer and to the community, and which distinguish him from the unambitious and unskilled hireling.

SUBLETT'S WINDOW SUPPORT.—Mr. Wm. A. Sublett has on exhibition at the Mechanics' Fair a full-sized window, provided with his improved catch, or window supporter, which he claims to be far superior to any other device for the same purpose in existence, and which is intended to do away with the cord and weight apparatus. Mr. Sublett, in his circular, gives numerous plausible reasons why his apparatus should be used in preference to any other. The device consists in letting into the frame, at the side of the window, a piece of metal which is provided with an inclined chamber, the deepest part being at the top. Inside this chamber is placed a round metal ball. The sash covers the chamber, and when it is pushed upward the ball is rolled up the incline into the deeper portion of the chamber, allowing the sash to raise easily; but the instant the upward pressure is discontinued, the ball drops down the incline and instantly binds against the sash, holding it securely. A strip of hoop iron is attached along the side of the sash, in order to prevent the wear which would result to wood on account of the friction produced by the ball. Persons will easily see its adaptability by examining the window on exhibition. Mr. Sublett has applied for a patent through the MINING AND SCIENTIFIC PRESS PATENT AGENCY.

WANTED—At this office, the postoffice address of Enraght Massey, late of Gold Hill, Nevada.

NOTICE.—Persons interested in locating Mineral Lands in California or Nevada, will do well to observe the advertisement of N. Wescoatt, S. & M. E., in another column.

CO-OPERATIVE UNION STORE.—This is becoming one of the most useful institutions in the city, and the Mechanic and Laboring Man fully appreciate it. They are now enabled to buy their Groceries and Provisions 20 per cent. cheaper than ever before, and the very best articles in the market. The store is located at 115 Sutter street, Lick House Block, San Francisco. 6v16-aim

SAVE YOUR TEETH.—Drs. Jessup & Beers, over Tucker's jewelry store, are now making a specialty of filling the fangs of dead Teeth, and building up broken crowns with *pure gold*—thus restoring them to their original usefulness and beauty. They are also using Nitrous Oxide for the painless extraction of Teeth, when so desired—the only absolutely safe anæsthetic ever discovered. In breathing it, it acts as a gentle stimulant, without undue excitement,—the sensation produced being truly delightful, the effect upon the lungs healthful, and in its results positively free from all danger. Prepared and administered daily at the Dental Rooms of Messrs. JESSUP & BEERS, corner Montgomery and Sutter streets, San Francisco. 16:16if

1 T
will heal
old sores, piles,
ulcers, cancers,
salt rheum, and breaking out on any part of the body, and also removes pain of every name or nature instantly. It is a harmless liquid, and leaves no smart or stain, and is called Moore's Pain Paint. For catarrh and colds in the head, Moore's catarrh remedy affords a safe, sure and speedy cure. Both remedies sold by druggists everywhere, and at Moore's office, 652 Market street, northeast corner of Kearny, where all pain is instantly removed, free of cost, as hundreds can now testify from actual tests.
8v17-3m

NORTH AMERICA
Life Insurance Company.

Usual Restrictions on Occupation and Travel
ABOLISHED!

Policies of this Company are guaranteed by the State of New York, which is true of no other Company on this Coast.

The most Responsible and Liberal Company in the World!

J. A. EATON & CO.,
Managers Pacific Branch, 302 Montgomery st.
20v1anr9p SAN FRANCISCO.

Support Home Manufactures.

California Pioneer Fuse
MANUFACTURING COMPANY,
MANUFACTURERS OF
HOSE AND TAPE FUSE,

A New and Superior Article for Blasting in very wet ground, or under water.

Great difficulty has heretofore been experienced by miners, and others in the use of Fuse, which has been subjected to deterioration from exposure to dampness during transportation, or during the great length of time which has passed between its manufacture and use. In addition to great painstaking in the manufacture of the California-made Fuse, the above and many similar objections are entirely obviated, and the operator can always depend with certainty upon the burning of his fuse.

It is often the case that extra lengths are required, as exploding tunnels, etc., longer than is furnished in the imported article. Fuse of every desired length or size can be made to especial order, at the above manufactory.

Manufactory, - - - - Potrero, San Francisco.
JOS. POWNING, Sec'y. JAS. EVA, Supt.
17v16 9ptf

PACIFIC
Rolling Mill and Forge Co.,
SAN FRANCISCO, CAL.

Established for the Manufacture of
RAILROAD AND OTHER IRON
—AND—
Every Variety of Shafting,
Embracing ALL SIZES of
Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames
—ALSO—
HAMMERED IRON
Of every description and size.

☞ Orders addressed to PACIFIC ROLLING MILL and FORGE CO., Post Office, San Francisco, Cal., will receive prompt attention.
☞ The highest price paid for Scrap Iron. 9v14-3m9p

A Book for Every Miner and Scientific Man.
JUST PUBLISHED,
KUSTEL'S NEW WORK,
CONCENTRATION
Of all kinds of Ores, and the
CHLORINATION PROCESS,
For Gold-Bearing Sulphurets, Arseniurets, and Gold and Silver Ores generally.

Price, - - - - - $7.50

A liberal discount to the Trade. For sale by the Booksellers. Sent to any part of the United States, postage paid, on receipt of the price. Address,
DEWEY & CO., Publishers,
Office of the Mining and Scientific Press, 414 Clay street,
16v1tf SAN FRANCISCO.

NOTICE.

On and after this date, all parties on the Pacific coast manufacturing, using, or selling
Dunbar's Patent Piston Packing,
must obtain a License for the same from the undersigned, or they will be subject to the penalties of the law.

H. S. SMITH,
Ætna Iron Works.
San Francisco, Angust 15th, 1868. 7v17-3m

Pacific Chemical Works.

SULPHURIC ETHER.
SPIRITS OF NITRE,
AQUA AMMONIA,
ACETIC ACID,
CYANIDE OF POTASSIUM
—AND—
ACIDS AND CHEMICALS OF ALL KINDS.
FALKENAU & HANKS,
Office, 619 Montgomery Street.
LOUIS FALKENAU, State Assayer.
☞ Particular attention paid to the Analysis of ORES, MINERALS, METALS, etc. 8v17

The Risdon Iron & Locomotive Works.
Incorporated, April 30, 1868. Capital, $1,000,000.
Location of Works, Corner Beale and Howard streets, SAN FRANCISCO.
Successors to Pacific Mail S. S. Co. Works at Benicia, Coffey & Risdon, and Devoe, Dinsmore & Co., San Francisco.
Steam Engine Builders, Boiler Makers,
MACHINISTS AND FOUNDRYMEN.
All work in their line attended to with promptness and dispatch. DIRECTORS—S. F. Butterworth, Lloyd Tevis, Jas. Pollock, Gen. Holladay, Chas. E. McLane, John N. Risdon, Joseph Moore, John N. Risdon, President; Joseph Moore, Vice President and Superintendent; Chas. E. McLane, Treasurer; Lewis R. Mead, Secretary; Lewis Coffey, Superintendent Boiler Works. 8v17 6y

Machinists and Foundries.

PALMER, KNOX & CO.,

Golden State Iron Works,

Nos. 19, 21, 23 and 25 First Street,
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF

MACHINERY,

STEAM ENGINES AND QUARTZ MILLS
DUNBAR'S IMPROVED

Self-Adjusting Piston Packing,

Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

WHEELER & RANDALL'S

NEW GRINDER AND AMALGAMATOR
HEPBURN & PETERSON'S

AMALGAMATOR AND SEPARATOR,

Knox's Amalgamators,

WITH PALMER'S PATENT STEAM CHEST,

Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continuat working.

Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10qy-tf

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WILLAMETTE IRON WORKS,

PORTLAND, OREGON.

Steam Engines, Boilers,

SAW AND GRIST MILLS,

MINING MACHINERY, WROUGHT IRON SHUTTER WORK, AND BLACKSMITHING IN GENERAL.

Corner North-Front and E streets,

18v13-1y One block north of Couch's Wharf.

UNION IRON WORKS,

Sacramento.

WILLIAMS, ROOT & NEILSON,

MANUFACTURERS OF

CROSS' PATENT BOILER FEEDER,

STEAM ENGINES, BOILERS,

And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old Cylinders, manufactured to order.

Front Street, between N and O streets,

14v11 SACRAMENTO CITY

GLOBE

Foundry and Machine Shop,

STOCKTON, CAL.

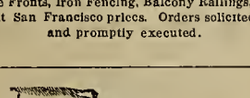
KEEP, BLAKE & CO.,

MANUFACTURERS OF

Quartz, Saw and Grist Mill Irons, Steam Engines, Horse Powers,

Mining and Irrigating Pumps, Car Wheels, Derrick Irons, House Fronts, Iron Fencing, Balcony Railings, etc., at San Francisco prices. Orders solicited and promptly executed.

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JAMES MACKEN,

COPPERSMITH,

226 Fremont st., bet. Howard & Folsom

All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to.

13v11

GEORGE T. PRACY,

MACHINE WORKS,

Nos 109 and 111 Mission street, between Main and Spear,
SAN FRANCISCO.

STEAM ENGINE, FLOUR AND SAW MILL

And Quartz Machinery, Printing Presses,

—AND—

MACHINERY OF EVERY DESCRIPTION MADE AND REPAIRED.

☞Special attention paid to Repairing.☜ qy-8

CITY IRON WORKS COMPANY.

CLERC & CO.,

IRON FOUNDERS,

Steam Engine Builders, and Makers of all kinds of Machinery,

6v16qr No. 28 Fremont street, San Francisco.

To Foundrymen and Blacksmiths.

LUMP LEHIOH AND CUMBERLAND COAL, IN ANY quantity, sacked and shipped to any part of the country, by JAS. R DOYLE, Coal Dealer,
413 and 415 Pacific street,
(bet. Sansome and Montgomery,
24v15-3m San Francisco.

Miners' Foundry

—AND—

MACHINE WORKS

Nos. 245 to 255 FIRST STREET,

San Francisco.

HOWLAND, ANGELL & CO.,

PROPRIETORS,

Manufacturers of Machinery for

QUARTZ MILLS.	**FLOUR MILLS,**
SAW MILLS,	**SUGAR MILLS,**
POWDER MILLS,	**PAPER MILLS**

Steam Engines of all Kinds.
Amalgamators of all Kinds.

MINING PUMPS,	**HOISTING WORKS.**
OIL WELL TOOLS,	**ROCK BREAKERS,**

—AND—

Machinery and Castings of all kinds, either of Iron or Brass.

Boilers and Sheet Iron Work in all its Branches.

Shoes and Dies of White Iron, manufactured for and imported by us expressly for this purpose, and will last 25 per cent. longer than any other made on this coast.

Russia Iron Screens, of any degree of fineness, We are the only manufacturers on this coast of the "Hicks Engine," the most compact, simple in construction, and durable, of any Engine in use.

W. H. HOWLAND, H. B. ANGELL,
15v14-qr **CYRUS PALMER.**

FULTON

Foundry and Iron Works.

HINCKLEY & CO.,

MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Hayes' Improved Steam Pump, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.

N. E. corner of Tehama and Fremont streets, above Howard street, San Francisco. 3-qy

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BAURHYTE, McAFEE & SPIERS,

BOILER MAKERS

AND GENERAL MACHINISTS,

Howard st, between Fremont and Beale, San Francisco.

Flue or Tubular **Boilers,** with plain circular or spiral courses. Upright Flue or Tubular Boilers, Locomotive and and Marine Boilers, and Wrought Iron Tanks of every description.

Hydraulic Pipe supplied at reasonable rates. In ordering, give the quantity of water to be supplied, hight of the fall, and total length of pipe, so as to enable the firm to determine the diameter of the pipe and thickness of iron to be used.

Repairs.—Boilers, Smoke Stacks, Pipes, etc., put in repair with promptness.

To Boiler Makers and Machinists in the Interior.—The firm is prepared to furnish estimates of Boilers, supply new Heads, drilled and punched, and attend to the selection and forwarding of Iron for Boilers, Pipes and other purposes.

Plans, Drawings and Specifications.—The firm is prepared to make out Plans and Specifications, receive estimates, and superintend the Erection of any Machinery that may be entrusted to their care

To Inventors.—The firm is prepared to assist in developing the plans of those who have the ideas but not the practical experience necessary to put the same in form, by making Drawings of their Inventions, giving them the benefit of their practical knowledge in the construction of Machinery, and attending to the manufacture and introduction of their inventions. 1v16tf

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J. NEWSHAM. J. BIGWOOD.

SOUTH BEACH IRON WORKS,

Near corner of King and Third streets, San Francisco.

MARINE ENGINES,

AND ALL KINDS OF

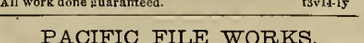
MACHINERY FORGING.

All kinds of Ship-smithing and Mill work manufactured to order. Jobbing of every description promptly attended to. All work done guaranteed. 13v14-1y

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PACIFIC FILE WORKS,

No. 53 Beale Street, bet. Market and Mission,
SAN FRANCISCO.



Files Re-cut and warranted as good as new, with a saving of fifty per cent. REAPER AND MOWER SECTIONS MADE TO ORDER. The only establishment on the Coast. Orders from the country promptly attended to. ☞First Premium awarded at the State Fair, 1867.

2v17-3m **T. G. BURNING & CO.**

LINCOLN IRON WORKS,

No. 51 Beale st., bet. Market and Mission.

D. FOURNESS, Proprietor.

STEAM ENGINES,

Flour and Sawmills, and MACHINERY of all descriptions made and repaired at shortest notice.

☞Particular attention paid to repairing Reynold's Cut-off 5v15qr

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CALIFORNIA BRASS FOUNDRY.

No. 125 First street, opposite Minna,
SAN FRANCISCO.

ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞ PRICES MODERATE. ☜

J. P. GALLAGHER. J. H. WEED. V. KINGWELL.
9v13-1y

IRA P. RANKIN. A. P. BRAYTON. A. C. AUSTIN.

Pacific Iron Works.

First and Fremont Streets,
SAN FRANCISCO.

Having been established since 1851, we have accumulated a very large variety of Gear and other Patterns, which, with our superior tools and appliances, give us facilities for doing first class work unequaled on the Pacific Coast.

Among other things, we manufacture the following:

STEAM ENGINES,

Horizontal and Vertical, for either Stationary or Marine use.

BOILERS—High and Low Pressure,

Pump, Pipe and Sheet Iron Work of every kind.

Quartz Mill Work,

Including High and Low Mortars, for wet or dry crushing; Furnace Irons for Roasting Ores; Freiberg Barrels; Varney's and Wheeler's Amalgamating Pans and Settlers; Stamp Shoes and Dies of best White Iron; Russia Iron Screens, etc., etc.

Flour Mill, Saw Mill and Sugar Mill Work in every variety; Pumping and Hoisting Machinery; Hansbrow's Patent Challenge Pump, for Domestic, Ship and Mining use—the most approved and successful Pump manufactured.

Castings of every description, Iron and Brass.

We would call especial attention to "Wright's Patent Variable Cut-off Engines," of which we are the sole manufacturers on the Pacific Coast, under license from the Woodruff & Beach Co., Hartford, Ct. As a simple, effective, FUEL SAVING, first-class Engine, this is, without doubt, the best Engine made in the United States.

Orders promptly attended to. Prices as low as possible for first-class work, and we intend to do no other.

GODDARD & CO.

San Francisco, May 1, 1868. 18v16tf

Phœnix Iron Works.



JONATHAN KITTREDGE, Proprietor,

Nos. 18 and 20 Fremont street, near Market,

MANUFACTURER OF

Fire-Proof Doors, Shutters,

Wrought Iron Girders, and all kinds of Housesmith work, Bridge and Prison Work;

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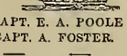
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July 16, 1868. 5v17-1m

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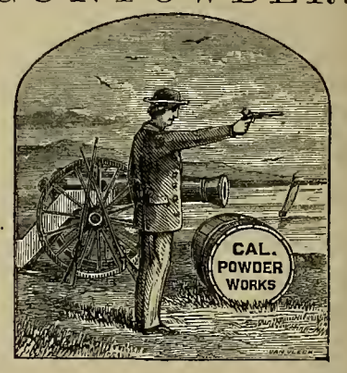
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[From the Mechanics' Fair Daily Press, Aug. 15.]

California Trust Company.

Among the many monetary institutions established in San Francisco, probably none are calculated to be of more practical benefit to our citizens than the California Trust Company.

This company commenced business in its new banking office, No. 421 California street, on the first of May last. Its capital stock is one million dollars, divided into ten thousand shares, of one hundred dollars each, and is owned by some two hundred and fifty stockholders.

It will transact business as a bank of deposits and loans, keep current accounts subject to check or draft, make collections and disbursements, and attend to all kinds of financial business on as favorable terms as any bank or bankers. On unemployed capital, term deposits and trust funds, it will allow interest from five to eight per cent. per annum, according to time and amount, from the day of deposit until drawn out. By its act of incorporation and the by-laws of the company, it can loan its money only on good securities, which it is now doing in sums as required by its customers. All its capital, deposits and trust funds, except such as may be required for current demands, will be kept employed in such loans.

One department of this company is devoted to the safe deposit business. It will receive bonds, deeds, stocks, wills, jewelry, silverware, and any valuable property or papers on special deposit for safe keeping in its large, fire and burglar-proof vaults and safes, at moderate charges. In a country where the population changes from place to place so often as ours, this feature of the company, which is new here, will afford great convenience and security to parties.

Another department, is agency and commission business. It will hold powers of attorney, and take charge of the business of non-residents, and persons temporarily absent from the State. It will also act as trustee, receiver, treasurer, etc., in all kinds of fiduciary business. The advantages of employing this company for such business in preference to individuals, are many. It has a large paid up capital in gold, a perpetual existence, a central office, and a good system of records and accounts, showing every transaction with the company.

The officers are: President, Henry L. Davis; Cashier, D. W. C. Thompson; Auditor, Thomas B. Ludlum; Trustees, Henry. H. Haight, John Currey, William H. Sharp, F. L. Castle, J. H. Baird, J. C. Johnson, C. W. Hathaway, H. Barroilhet, A. J. Coghill, J. O. Eldridge, C. J. Decring, D. McLennan, Samnel Crim, W. N. Hawley, M. Rosenbaum, C. W. Plum, H. Rosekrans, H. J. Booth, C. F. McDermot, W. B. Cummings, and H. L. Davis.

NEW ENTRIES.—During Thursday, Friday, and Saturday, there were entered at the Fair, in addition to what has heretofore been mentioned, a concentrator by Kernan, referred to under Mining Machinery in this issue; a miniature artificial stone manufacturing establishment, by E. T. Steen, which turns out specimens on the spot, the principle being the cementation of ordinary sand into sandstone, through the agency of silicate of lime; a handy baby-tender, by S. T. Damon; a boat-detaching apparatus, by N. B. Adams; an improved cover for sauce pans, by George Reuben; a gauging box for beveling barrel-staves, by J. W. Alesworth; a set of puzzles for the edification of that useful class of persons who attend to solving the world's puzzles; an original universal clock, by Heintze; two sets of telegraphic apparatus from the California Business University, which are already set in operation, connecting their place at the middle entrance to the Art Gallery with their institution in town; improved window frames, by Storcken; powder kegs and canisters from the California Powder Works; a variety of edge tools, by Weichart; specimens of California and other polished woods, by Roemer; samples of excelsior sanitary pipe, by Skinner & Flick; a machine for picking hair, which may be seen in operation; house safes, by Chely; piece of sculpture, by Paltenghi; shells, by Day; several fine oil paintings by Sam. Brannan, Barron, Holdredge and others; cabinet furniture of California manufacture, by Wigmore & Palmer; an adjustable carriage pole, by Arnold; a case of California made fuse, by the Pioneer Fuse Company; wood engraving specimens, by Miss A. W. McClellan; more models of schooners and ships; mining hose and nozzles, and a sprinkler, by Tay, etc.

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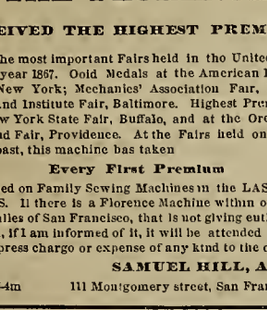
When the car reaches the platform, which is set at a slight incline towards the dump, the hind wheels run up an incline as the lower ones run down, till the load upsets itself by gravitation, when the weight of the empty car being on the hind wheels, draws it down the incline to the platform.

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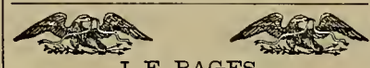
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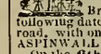
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Any stock upon which said assessment shall remain unpaid on the twenty third day of September, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twelfth day of October, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary.

Office, 27 New Merchants' Exchange, California street, San Francisco. au22

Mining Notices—Continued.

Chipiones Mining Company—District of Cres, Sonora, Mexico.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the ninth day of July, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Buzzolini, D.	11	30	$150 00
Buzzolini, D	79	4	20 00
Chevesich, E.	22	1	5 00
Ghirardelli, D.	23	29	145 00
Ghirardelli, D.	72	90	450 00
Ghirardelli, D.	75	20	100 00
Mosheimer, Jos.	56	25	125 00
Mosheimer, Jos.	57	26	130 00
Smith, R.	86	5	25 00
Quin, Thos.	85	5	25 00

And in accordance with law, and an order of the Board of Trustees, made on the ninth day of July, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by John Middleton & Son, No. 310 Montgomery street, San Francisco, California, on Monday, the thirty-first day of August, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN F. LOHSE, Secretary.

Office, 318 California street, up-stairs, San Francisco. au15

Office of the Folsom Street and Fort Point Railroad and Tunnel Company, southwest corner of Montgomery and California streets, Room No. 16, San Francisco.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-eighth day of July, 1868, an assessment of five dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to Caleb T. Fay, Esq., at the office of the Company.

Any shares of stock upon which said assessment shall remain unpaid on the twenty ninth day of August, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fourteenth day of September, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

au1 JOS. M WOOD, Secretary.

Hope Gravel Mining Company. Location of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of July, 1868, an assessment (No. 25) of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at his office, No. 533 Kearny street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on Thursday, the tenth day of September, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fifth (5th) day of October, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary.

Office, No. 533 Kearny street, corner of Sacramento, San Francisco, California. Office hours from 12 to 2 P. M. au1

I. X. L. Gold and Silver Mining Company.—Location of Mine: Silver Mountain District, Alpine County, California.

NOTICE.—The Annual Meeting of the stockholders of the I. X. L. Gold and Silver Mining Company, for the purpose of electing Trustees for the ensuing year, will be held at the office of the Company, Pioneer Hall, Montgomery street, San Francisco, Cal., on THURSDAY, September tenth, 1868, at 2 P. M.

au15 J. CROWNINSHIELD, Secretary.

Kearsarge Mining Company, Kearsarge District, Inyo County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of August, 1868, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 408 California street, San Francisco

Any stock upon which said assessment shall remain unpaid on the fourth day of September, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-first day of September, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINGARD, Secretary.

Office, 408 California street, San Francisco. au8

Rattlesnake Gold and Silver Mining Company, Brown's Valley, Yuba County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventh day of August, 1868, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, 318 California street, up-stairs, San Francisco.

Any stock upon which said assessment shall remain unpaid on the tenth (10th) day of September, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-eighth day of September, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary.

Office, 318 California street, San Francisco, Cal. au8

Silver Sprout Mining Company.—Location of Works and Mines: Kearsarge District, Inyo county, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of August, 1868, an assessment of thirty dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, 408 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the fourth day of September, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty first day of September, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T B WINGARD, Secretary.

Office, 408 California street, San Francisco. au8

Office of the Silver Sprout Mining Company, San Francisco, August 4th, 1868.

STOCKHOLDER'S NOTICE.—In accordance with a resolution adopted at a meeting of the Board of Trustees of the Silver Sprout Mining Company, held this day, a special meeting of the Company is hereby called, the same to be held at the office of said Company, No. 408 California street, San Francisco, California, on Monday, the thirty-first day of August, 1868, at one o'clock P. M., to take into consideration and decide upon the proposition to increase the capital stock of said company from two hundred and fifty thousand dollars, divided into two hundred and fifty shares of one thousand dollars par value each, the present capital stock of the Company, to three million five hundred thousand dollars, to be divided into five thousand shares of seven hundred dollars par value each.

NATHANIEL PAGE,
A. WINGARD,
E. B. MOTT, JR. } Trustees.

au8-1m

Machinery.

VARNEY'S PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has everrequired repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setlers for themselves, at the **PACIFIC FOUNDRY,**

1v1 San Francisco.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077

3v13f SAN FRANCISCO.

Notice to Miners, Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG,

8v13-1y Stove Store. No. 125 Clay street, below Davis.



REMOVAL.

E. O. HUNT'S

Manufactory of

Windmills, Horse-Powers and Pumps,

Has been removed from the old stand on Second street, to

114 and 116 Spear st.,

Next above Stuart and south of Mission st, San Francisco.

Hunt's Patent Wind-Mills, Tread Horse-Powers, Sweep Horse-Powers, (for one or four horses), Sawing Machines, Pumps of all kinds for shallow or deep wells,—including Hunt's Submerged Pump, Hunt's Globe Pump, and Hunt's Single and Double-Acting Pump.

Pumping Machines and general Machinery kept constantly on hand and built to order.

Also, Water Tanks of all sizes.

Having put up large new buildings specially for my business, with greatly increased facilities in the way of room and steam power, I shall be able to build everything in my line at greatly reduced rates.

All desirous of procuring water for irrigating or other purposes, are invited to examine my articles before purchasing elsewhere.

23v16 **E. O. HUNT, Proprietor.**

OIL STOVES!

MORRILL'S

Petroleum and Universal Oil Stoves

Have proved themselves a superior substitute for Wood and Coal Stoves, in that they work quicker, are neater, bake and broil better, are MORE ECONOMICAL generally. They are portable, can be used in any room, with or without chimney, as they emit no smoke, soot or ashes. There are nine different sizes, designed for barbers, deutists, and other mechanical purposes—as well as for cooking. They are perfectly safe.

I now offer a reward of **$100** for every Petroleum Stove exploded by Naphtha delivered at my store, 18 Geary street, where they are for sale by

M. B. BULLARD,

Proprietor of Petroleum Stove for California, and Agent for Universal Oil Stove for Pacific Coast.

N. B.—Petroleum Stoves burn Naphtha converted into a gas. Universal Oil Stoves burn Naphtha, Benzine, or Coal Oil, with non-illuminating flame and light on a wick as easy as a lamp. 21v16 3m

OILS! OILS! OILS!

MACHINE OILS OF ALL GRADES,

Pure Lard Oil,

SPERM OIL, PARAFFINE OIL, Etc., Etc.

EXCELSIOR MACHINE OIL,

The Best in use.

A. C. DIETZ & CO., Sole Agents

519 and 521 Front street, San Francisco.

22v16-3m

Fire, Hose and Machine Belting.

THE SUBSCRIBER CONTINUES TO MANUFACTURE Oak Tanned Leather Fire Hose, warranted superior to Eastern Hose, manufactured at the Sixth Street Tannery, San Francisco.

21v16tf JOHN J. FULTON.

ROBERT BRAGG,



STEERING WHEELS

ON HAND AND MADE TO ORDER.

☞**JOB WORK** done to order, at the shortest notice. Main street, between Fulsom and Harrison,

23v16-3m San Francisco.

NELSON & DOBLE,

AGENTS FOR

Thomas Firth & Sons' Cast Steel, Files,

Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks,

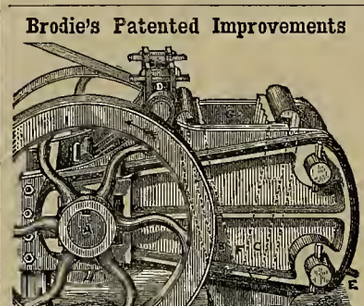
Stone Cutters', Blacksmiths' and Horse-Shoers' Tools,

319 and 321 Pine Street,

Between Montgomery and Sansome, San Francisco.

1uv14qr

Brodie's Patented Improvements



FOR THE TREATMENT OF

Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:

No. 1—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price.....$600

No. 2—Or 15-inch Crusher, capable of similarly pulling through five to six tons per hour..... 850

No. 3—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour..... 1,200

These Crushers have been erected at several mines in the State of Nevada, and others in Calaveras, Tuolumne and Mariposa counties, to whom applicants can be referred as being the most efficient, cheapest, and least weight compatible with strength and durability, of any Crusher yet erected.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.

JAMES BRODIE, Fulton Foundry, or

CHARLES RADCLIFF,

Express Building, 402 Montgomery street,

12v13tf San Francisco.

C. F. TRAVIS,



Manufacturer of

FRENCH BURR Mill-Stones, AND PORTABLE MILLS.

Agent for **Dufour & Co's** Celebrated

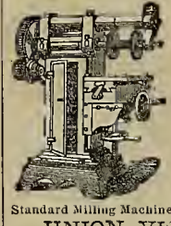
DUTCH ANCHOR BOLTING CLOTHS.

Mill Picks, Mill Picks Dressed, Mill-Stones Repaired and Rebuilt; Mill-Stones Balanced with Felenbaum's Patent Balance, of which I am sole Proprietor for California, Oregon, and Washington Territory. C. F. TRAVIS,

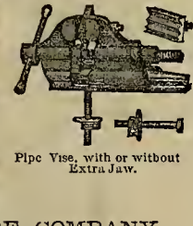
5v16tf 109 Mission street, San Francisco.

Belting and Lacing.

AN ENTIRELY NEW AND SUPERIOR ARTICLE OF exclusively mechanical preparation, made to order on short notice, and for sale by H. ROYER, at 435 Brannan street, between Third and Fourth. Refers to Eisen Bros, Pioneer Mills; Martin Steen, National Mills; Horace Davis, Golden Gate Mills; also, N. W. Spaulding, Saw Manufacturer. 6v16-3m



Standard Milling Machine.



Pipe Vise, with or without Extra Jaw.

UNION VISE COMPANY,

OF BOSTON,

Make Vises of all sizes and kinds, for Machinists, Blacksmiths, and all other heavy mechanical work. Wood workers' and other Vices, with Covered Screw, for general mechanical work. Standard Milling Machines, very simple and easily adjusted. Address, Boston, Mass. 23v16-1y

GLASGOW

Iron and Metal Importing Company,

Nos. 25 and 27 Fremont street,

SAN FRANCISCO,

Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings which they offer to the trade on liberal terms.

21v16-3m ☞ McCRINDLE, Manager.

MINING PRESS.—This old standard mining journal of the Pacific Coast, comes to us this week, number 1 of Volume XVII, and much improved in several particulars. A beautiful new head and heading letters throughout, make it the neatest, as it has always been the best, exponent of the industries of this coast. Every miner should take the PRESS. The subscription price is $5 per year, and the Postmaster at Monitor is an authorized agent.—*Alpine Miner July 4th.*

American Saw Company.



MANUFACTURERS OF

EMERSON'S PATENT

Movable-Tooth and Perforated Circular Saws,

Perforated Mulay, Mill and Cross-Cut Saws, with Adjustable Sockets.

SAW-GUMMERS, SWAGES, CANT DOGS,

Etc., have established an office for the sale of the above articles, at

● **No. 606 Front street, San Francisco.**

☞Descriptive Pamphlets will be forwarded to any one giving us their address. 5v17tf

To Inventors.

The undersigned is now prepared to assist inventors or others by manufacturing Models for the Patent Office, large working Machines or Devices of every description, in Metal or Wood, in the most workmanlike manner and at reasonable rates. Also, Patterns for Iron and Brass Work and all kinds of Machinery.

Having had ten years' practical experience in this city, parties can be assured all work entrusted to me will be executed in a prompt and satisfactory manner. Power will be granted to parties wishing to test or experiment with machinery.

☞Full files of the Patent Office Reports for the use of patrons. **J. H. CULVER,**

3v17-3m **20** Fremont street, over Phœnix Iron Works.



STOVES AND TIN WARE,

WOODEN WARE

WILLOW **WARE,**

BIRD CAGES,

Etc., Etc.



Lock's Patent Self-Lighting Gas-Burners, by

GEO. H. CHICK,

At 834 Market street, San Francisco.

24v16-3m

HO TEAMSTERS!

CONTINUE TO

USE HUCKS & LAMBERT'S

CELEBRATED

H & L Axle Grease,

To which you have given so decided a preference for the last

FOURTEEN YEARS,

It is the only reliable article

IN THE MARKET

Every care will continue to be used to sustain the high reputation the H & L Axle Grease, has so long and justly attained.

☞Be sure and ask for the H & L brand, and see that the

TRADE MARK H & L

IS ON THE COVER OF THE PACKAGE

NONE OTHER IS GENUINE.

FOR SALE IN EVERY STATE IN THE UNION.

SWAIN'S PATENT

Anatomical Boots

AT TEN DOLLARS PER PAIR

Having received lately from Washington a patent for his new invention in Lasts, he is now prepared to make and sell as good Boots as the world can produce, at the above named price. A liberal discount will be given to the trade.

J. H. SWAIN,

206 Bush street, San Francisco.

JOHNSON & BEST,

CARPENTERS AND CABINET-MAKERS,

717 Market Street, near Third.

STORES AND OFFICES FITTED UP. Office Desks, Show Cases, and all kinds of Cabinet Work, made to order.

Furniture Repaired, Varnished and Polished.

FRENCH POLISHING DONE TO ORDER.

ENGLISH MINING ENTERPRISE IN TURKEY.—The English, true to their national instinct for the development of leading resources in foreign countries on a methodical basis—of stock companies, which seems to be ingrained in them from the times of John Law and the "Mississippi Bubble"—are, of course, the proprietors and workers of the coal mines in Turkey, if they are worth anything; and such appears to be the fact. The Heraklea coal basin attracted attention during the Crimean war; extending forty miles along the coast, and requiring scarcely any land carriage, while the seams are found cropping out to forty feet in thickness.

CALIFORNIA TRUST COMPANY,

OF SAN FRANCISCO,

Office, No. 421 California street,

Hayward's Building, next to Merchants' Exchange.

Capital One Million Dollars.

Bank of Deposits and Loans.

Accounts Kept, subject to Check or Drafts.

Correspondent for Banks and Bankers.

INTEREST ALLOWED ON DEPOSITS & TRUST FUNDS.

Money Loaned only on Good Securities.

Safe Depository for Bonds, Stocks, Jewelry, Silverware, Etc.

Collections and Disbursements Promptly made.

The Company will hold Powers of Attorney and transact business as Agent, Trustee, Receiver, Executor, Administrator, Guardian, Treasurer and Assignee. Investment made for parties in Real Estate, Public Securities, Local Stocks and other property.

OFFICE HOURS—FROM 9 A. M. TO 4 P. M.

Trustees:

Henry H. Haight,	John Currey,
John H Baird,	John O. Eid idge,
Henry Barroilhet,	William H. Sharp,
Frederick L. Castle,	Jacob C. Johnson,
Walter N Hawley,	Charles J. Deering,
Donald McLennan,	Hiram Rosekrans,
Charles P. MacDermot,	Andrew J. Cephill,
Moses Rosenbaum,	Charles M. Plum,
Henry J. Booth,	Samuel Crim.
Chas. W. Hathaway,	Walter B Cummings.

HENRY L. DAVIS. President.

CASHIER, D. W. C. THOMPSON. AUDITOR, THOMAS B LUDLUM.

JAS. G. STEELE & CO.,

Chemists and Apothecaries,

Manufacturers of Steeles' Proprietary Preparations, Mineral and Soda Waters, and Importers of Pure Drugs, Chemicals, Patent Medicines, Colognes, Soaps, Brushes, Perfumes, etc.

List of Steele's Proprietary Preparations:

Oleocelin, Wine of Pepsine,
Amantine, Saponaceous Tooth Powder,
Florentine Tooth Wash, Devine's Cough Lozenges,
Glycerine Lotion, Rosemary and Castor Oil,
Orientale for the Hair, Steele's Bay Rum,
Cold Cream of Roses, Steele's Cologne,
Solution and Granules of Citrate Magnesia.

JAMES G. STEELE & CO.,

521 Montgomery street, between Clay and Commercial, San Francisco.

☞For sale—the Celebrated Electro-Silicon Polish.

SQUARZA'S PUNCHES

—AT THE—

MECHANICS' INSTITUTE FAIR.

CHALLENGE

To all Punch Manufacturers

IN THIS STATE FOR

ONE THOUSAND DOLLARS

That the Punches manufactured by the undersigned are of better material, better made, and of superior flavor to any Punches that are fabricated on this coast

The Punches of Squarza are world-renowned, and have been distinguished by receiving THIRTEEN PREMIUMS at the different Fairs in this State. The following is a list of the Celebrated and Favorite.

Squarza's Punches and Cordials

which will be on exhibition at the Mechanics' Institute Fair, where visitors from the interior can try the various brands:

Welcome,	Strawberry,	Mint,
Jamaica Rum,	Pisco,	Anise,
Cognac,	Appetizer,	Blackberries,
Arrack,	Anti-Dyspeptic,	Rose,
Kirschwasser,	Roman,	Kimmel,
Gin,	Nectar,	Pin Coffee,
Whisky,	Ladies' Tears,	Kirsch
Cocoa,	Anti-Divorce,	Ladies' Pleasure,
Coffee,	Aurora,	Morning Comfort,
Tea,	Farewell.	
	Pine Apple,	

In addition to the above well known beverages, the undersigned has the pleasure of introducing for the first time

THE EGG NOG PUNCH,

A drink with all the flavor and invigorating qualities of this popular decoction, which can be bottled and kept like any other Punch. Also the

LADIES' FAVORITE,

A mild and highly-flavored Cordial for the Ladies; both of which are preparations by Squarza

There will also be on exhibition the celebrated brands of Bitters made by Squarza—the

Hygienic Bitters, Cholera Antidote, Aguasturo, Selsner.

All these liqueurs have ripened and mellowed with age, having been manufactured from five to seven years ago by Squarza himself.

A. BONA,

Successor to V. Squarza,

National Manufactory, 120 Leidesdorff street, Bet. Sacramento and California, opp. What Cheer House.

THE INFLUENCE OF THE FAIR.—Those who visit the Fair for the mere gratification of seeing the sights, and of being seen themselves, have no conception of the influence it exercises. The more thoughtful visitor, particularly those who have attended the previous Fairs of the Institute, must feel gratified by observing the many signs of the influence of such an exhibition. The display of the various products of local industry, the evidence of the progress of local manufactures,—such as the present Fair affords,—is of itself a sight that must gratify every well-wisher of the State. But a deeper, more significant influence works through such exhibitions. The man or woman who *thinks*, will mark this influence, in the models of machinery made by apprentices; drawings made by the children attending the public schools, as well as in the countless articles on exhibition, made by the tiny fingers of ingenious, ambitious children generally. There is no department of art or industry but what is pervaded by this influence. To stand for an hour in the vicinity of the organs and pianos, and hear little girls and boys, scarcely tall enough to reach the key-boards of the instruments, execute the most difficult solos with absolute brilliancy, affords a proof that, even in this dollar-loving community, the refinement of music is as much cultivated as the mechanical arts. So long as ambition,—the desire to excel,—pervades human nature, the means for exciting such ambition will be beneficial. From this point of view, the influence of mechanic's fairs is only second to that of the public schools. The latter lays the foundation of knowledge, the former fashions the superstructure raised on that broad foundation.

SHEET IRON CHIMNEYS. — Minneapolis, Minn., has produced a sheet iron chimney which is made of three sheet iron cylinders, the space between the outer and second one being filled with ashes, thus securing safety from fire. It is lighter and safer than brick.

HAYWARD & COLEMAN,

IMPORTERS AND REFINERS

—OF—

Illuminating, Lubricating,

—AND—

PAINT OILS,

CONSISTING OF

KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS, NEATSFOOT, BOILED AND RAW LINSEED, CASTOR AND CHINA NUT.

—ALSO—

Spirits of Turpentine and Alcohol.

NOTE.—We would specially call the attention of Mill owners and Engineers to our superior PARAFFINE OIL, which we manufacture from the California Petroleum. This oil will not gum. Machinery thoroughly cleaned and lubricated with it will not heat, and after remaining at rest, can be started without cleaning off.

Lamps and Lamp Stock!

☞ A sample can of our Parafline Oil will be forwarded on application to us, as we desire a fair and impartial trial. ☜ an elegant and complete assortment on hand. ☜
5v17-tf. **414 Front street**, San Francisco.

BUERK'S

Watchman's Time Detector.

THIS WATCH-CLOCK WAS INTRODUCED TO THE public in almost every section of the United States and Canada about five years ago, and it has proved itself to be the best invention in the world for testing the faithfulness of Watchmen. Since its introduction, the Proprietor has improved on some parts, and corrected deficiencies and he has now

A Perfect Check upon the Watchman.

With other Clocks, a regular routine has to be followed, but with this a Watchman can be ordered to visit any particular place as often as required, without being compelled to go to places where it is not necessary to visit as often.

The instrument is complete in itself, portable, and as reliable as the best lever watch.

It is not so likely to become disarranged in its works as a good watch, because its parts are stronger. But when it needs cleaning, any common watchmaker can adjust it, its mechanism being simple. It requires no fixtures or wires communicating from room to room, as is the case with the ordinary Watch Clocks; a small, inexpensive stationary key is alone required at each station. By its use places can be guarded that it would be impossible to guard with any other instrument, such as Railroad Tunnels, Bridges, Yards, Ships, etc. The instrument will in all cases be warranted perfect and satisfactory. Its price is invariably *Seventy-five Dollars*, cash on delivery, including as many keys as are required, not exceeding twelve.

THIS WATCH-CLOCK IS SOLD AT A LESS PRICE THAN ANY OTHER IN THE MARKET.

The DETECTOR is used extensively by large Manufacturing Establishments and Railroad Companies in the United States, from whom numerous testimonials have been received.

☞ This Detector is covered by two U. S. patents. Parties using or selling these Instruments without authority from me will be dealt with according to law.

N. B.—Parties purchasing these Clocks should test them sufficiently in the counting-room or office, as they will not be taken back after having been injured by the Watchman through carelessness.

All communications promptly attended to. Address

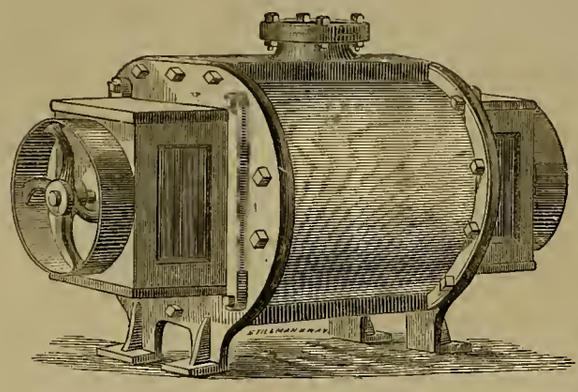
J. E. BUERK, Proprietor,
47 Congress street, Boston.

P. O. Box, No. 1057. 23v16 6m

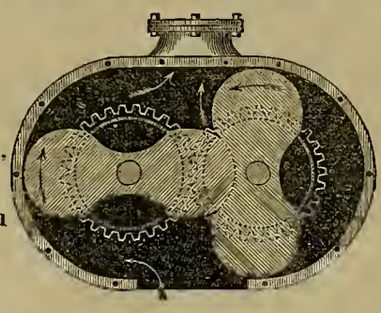
ROOT'S PATENT FORCE BLAST ROTARY BLOWER.

Patented Nov. 1st, 1864; July 24, 1866; and Oct. 9, 1866.

Awarded the First Premium at the Paris Exposition.



ADAPTED FOR **Smelting, Foundry, Mining and Steamships.**



REQUIRES **Fifty Per Cent.** LESS POWER **Than any Blower** now in use.

One of these Blowers may be seen on exhibition at W. T. Garratt's Brass Foundry, corner of Mission and Fremont streets. They are also in use at the Almaden Quicksilver mine; Gridley's Foundry, Gold Hill, Nevada; Ætna Iron Works, San Francisco, and many other places.

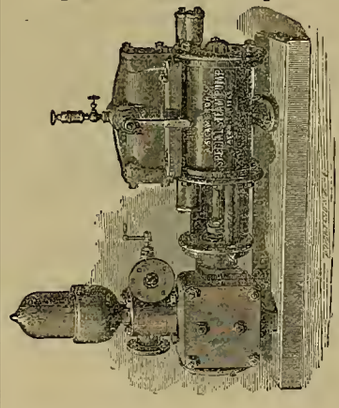
CAUTION.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.

For Circulars and further information, address

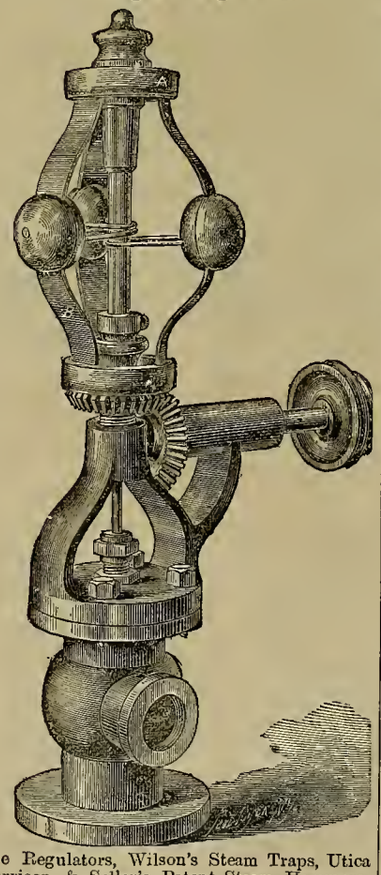
KEEP, BLAKE & CO.,
4v16 3m **Globe Iron Works, Stockton, Cal.**

STODDART'S IRON WORKS.

CAMERON'S Special Steam Pump.



PICKERING'S Engine Regulator.



CAMERON'S **STEAM PUMPS,** all kinds and all sizes, FOR SALE BY **DAVID STODDART,** Mechanical Engineer, 114 Beale street, San Francisco.

Giffard's Injectors, Pickering's Engine Regulators, Wilson's Steam Traps, Utica Steam Gauges, Steamboat Machinery, Morrison & Seller's Patent Steam Hammers, Seller's Patent Bolt Screwing Machines, Lathes, Planers, Shafting and Hangers, Cooper & Phillips' Turning Tools, Machinists' Tools, Engines and Boilers, Wheeler's Patent Tumbling Beam-Engine for Screw Propellers.

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San Francisco March 6, 1865 11v10-tf

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SODIUM AMALGAM.

All instructions and experiments elsewhere obtained are spurious and unreliable. WORKING EXPERIMENTS ON AMALGAMATION OF ORES, Etc. Prof. W. has in operation in New York a large and small Hepburn Pan, for working 1,000 or 20-lb. charges of material for experimental purposes. 3v17

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BY A PROCESS ENTIRELY NEW, THE PROPRIETOR is now manufacturing in quantity sufficient to supply the demands of the trade, A NEW AND SUPERIOR MATERIAL FROM THE FIBER OF THE COCOANUT—the best substitute for curled hair hitherto discovered—for mattresses, chairs, lounges, and all upholstering purposes. The following are some of the advantages which it possesses over all other materials used for the above named purpose:

1st. It is cheaper, all things considered, than most articles in use.

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4th. It is remarkable for its elasticity, rivaling, in this respect, the finest curled hair.

5th. It contains nothing to breed vermin or support insect life, being entirely freed in process of preparation from all deleterious vegetable matter.

Lastly. It does not pack; is free from dust; much lighter, and in general obviates all the objections to palm, prepared shavings, soap root, and other inferior substitutes for feathers and hair. 22v166m

$100 A MONTH SALARY WILL BE PAID FOR Agents, male or female, in a new, pleasant, permanent business. Full particulars FREE by return mail, of sample, retailing at $4 50, for 70 cents. A. D. BOWMAN & CO., No. 4 Broad street, New York.
[Cut out and return this notice. 6v17-7t

SHUBRICKVILLE.—Five photographic pictures of pencil drawings, by Gustavus Jansen, have been placed into the Art Gallery, illustrating the remarkable engineering feat of saving the revenue cutter Shubrick by taking her off the rocks overland, repairing and launching her again. No. 1 shows how she struck; No. 2 how she was broken like a stick in the middle; No. 3 how she looked after she was straightened again to her original shape, and transported 1,500 feet; No. 4 after being "slewed" around on the rocks, and lowered 18 feet in a position to be launched; and No. 5 on her way rejoicing to Mare Island Navy Yard, in tow of the brave steam tug, Mary Ann, whose exploits on the Humboldt Bay bar, and of themselves furnish matter for a little chapter of nautical heroism, as everybody knows who has ever gone sailing with the lumbermen up the coast.

One apparently insurmountable difficulty was encountered by the engineer, Mr. Winsbip—who helped build the Shubrick in Philadelphia 14 years ago, and has been with her ever since—in the shape of several enormous rocks in the hold of the vessel, which could not be gotten out in any manner imaginable. The idea struck him that they could be blasted out—and that is what was done. If the visitor would like to form an idea of how man's power can triumph over even the immensity of matter comparatively, a glance at the pictures will be profitable.

FROM SAN JOSE.—A large box of "bouncing big" Bartlett pears, and another of Dumas purple plums, came to us from San José, on Wednesday. They are the finest we have seen, or eaten, and deserve a 1st premium. Don't know who "grew them" for us. Just like our banking friend, to slyly send them "express paid"—so we will get even by telling everybody how the modest fellow got caned out of the City Council, after seven years' service, by his associates—with a nice gold beader—of which he is no doubt very proud.

WARD'S SHIRTS.—Who has not heard of them, who has not worn them, and who ever found a fault in them? They are the most perfect of all "perfect fitting" shirts, and are manufactured from the best of muslin in the most workman like manner. They fit the form with elegance and comfort. An eccentric printer was once heard to say they were the only "fits" ever known in some families.



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22v16-3m16p

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This department of Yale College, instituted in 1840, and endowed with the National Land Grant in 1866, furnishes advanced instruction in the various branches of Mathematical, Physical, and Natural Science.

The School is under the direction of the President of the College, a Board of thirteen Professors in different special ties, and six assistant instructors.

Regular courses of study, leading to the degree of Bachelor of Philosophy, conferred by Yale College, are arranged as follows: 1—CHEMISTRY AND MINERALOGY. 2—CIVIL ENGINEERING 3—MECHANICAL ENGINEERING. 4—MINING ENGINEERING AND METALLURGY. 5—AGRICULTURE. 6—NATURAL HISTORY AND GEOLOGY, and 7—SELECT COURSE.

Advanced students are also admitted to optional courses, and if already College graduates, are received as candidates for the degree of Doctor of Philosophy.

Tuition, $125 per year of forty weeks.

The Libraries, Museums, Laboratories and Apparatus, accessible to students, are various and expensive.

For copies of the Annual Circular and Report, letters may be addressed to the "Secretary of the Sheffield Scientific School," New Haven, Conn. 13v6-1y16p

PLAN OF THE PAVILION.

By this Plan we aim simply to sectionize the space in the Pavilion, so that exhibitors can determine in which section their articles are located, and by naming to others the number of that section, they are thereby directed to the vicinity of the article exhibited, and by inquiry can readily find it. A few of the most conspicuous articles are noted on the Plan, to serve as "guide marks" for the locality in which they are situated.

44. Paintings.	45. Sculpture.		46. Fancy Work. Paintings.		47. Decorative Painting. Portraits.	48.
ART GALLERY						
Worsted Work.	Wax Flowers, etc.	Sculpture.	49. Wax Work.	Porcelain and Glass.		Paintings.
	50. Photographs. Ent'r. Ent'r.		51. Photographs. Middle Ent'r.		52. Photographs. Ent'r. Ent'r.	
The Great Steam Plow.	8. Boots. Signs. Straw works. Plate. Crockery.	9. Saws Glass. Boots & shoes. Ship Models. Glass.	Music 23. Stand. Stairs to Gallery. Brass. Cider. Ice Cream Soda. Gas Mach. Shirts.		24. Brass. Soap. Bells. Wire Works.	39. Files. Draining Pipe. Axles. Vices. Saw - Petroleum Stoves. Sum'r House.
	7. Billiard Tables. Woolen Goods. Elastic Sponge.	10. Clothing. Regalia. Millinery. Hats.	22. Sewing Machines. Machines. Pioneer Silk Co.		25. Pat. Swing. Carriages. Cutlery. Silk.	38. Scales. Cooking Stoves. Lamps.
	6. Sponge Bedding. School Furniture.	11. Millinery. Umbrellas. Trusses Hats. Smoker's Articles.	21. Jewelry. Toys. Silver Plate. Jewelry. Fruit.		26. Cocoons. Guns and Sporting Articles.	37. Cabinet. Paper Hangings Carriages. Washing Machines. Type Foundry.
	5. School Furniture. Woolens. Cabinet Furniture.	12. Umbrellas. Philosophical Instruments. Dress Cutting Women's Co-op'tive Union	20. Cutlery. Matches. Flowers. Ground Glass. Ground Glass.		27. Artificial Legs. Wire Rope Machines. Telegraph.	36. Barrel Stave. Press Guage. Carpet Beat'r Cordage. Brass Pipe. Steel Boiler.
	4. Cabinet Furniture. Carpeting.	13. Clock. Tailoring. Books. Fancy Articles. Drugs.	FOUNTAIN. Chairs for Visitors. Artific'l Legs. Shrubs, Plants. Washing Fluid. Flowers. Stationery. Paper. Asphaltum.		28. Hose and Belting. Leather.	35. Cooperage. Hydraulic Nozzle. Tire Upsetr's Engine. Grindstones.
43. Steam Boilers.	3. Hats. Cloaks. Woolen Goods. Mattresses.	14. Millinery. Powder. Fancy Goods. Regalia. Straw Goods.	19. Macearoni. Trunks. Soda Fountain. Cider Mill. Daily Fair Press. Engine.		29. Trunks. Incline Elevator. Carriage Springs. Guns. Pottery.	34. Steam Plow. Shingle Machine. Engine. Model Engine Concentrat'rs
42. Ent'r Agricultural Machines. Ent'r	2. Clothing. Furs. Furs.	15. Clothing. Leather.	18. Tobacco. Carriages. Blacking. Glue. Tobacco. Sugar Refinery. Lead Works. Groceries.		30. Brushes. Carriages. Patent Hoist.	33. Engine. Amalgamators. Pumps. Hydraulics.
	1. Woolen Goods. Shoes. Leather. Clothing.	16. Clothing. Carpets. Saddles. Harness. Stairs to Gallery.	17. Sugar Refinery. Wooden Ware. Confectionery. Brushes. Groceries. Groceries.		31. Washing Compound. Carriages. Stairs to Gallery.	32. Ore Grinder. Artificial Stone. Planer. Glass Engine. Closets.
	40. Ent'r. Cloak Room, up stairs. Restaurant.	Ent'r. Ladies' Toilet. Left Tower.	Main Entrance. Ticket Office. Vestibule.		Ent'r. Board of Managers. Right Tower.	Ent'r. 41. Photographs. Organs. Plaster Crayons. Ornaments. Music Cal. Stereoscopic Views. Room. Inlaid Wood. California Wood Polishing. Pianos.

THE GERM OF A GREAT TRADE.—The majority of those who examine the interesting collection of silkworm cocoons, and raw silks exhibited by Mr. Prevost, scarcely comprehend the import of that curious collection. In fact, it is difficult for the most comprehensive minds to grasp the whole idea the subject suggests. Those who have studied the causes of the advancement of manufactures in different countries, and consequently are aware from what insignificant beginnings the greatest industrial interests of foreign countries sprang, can perceive how important the silk product of California is destined to become. But how few there are among the crowd who gaze on the collection of silkworms' eggs, which appear like grains of sand on the floor of the case which contains them, that comprehend the fact, that these little grains exercise almost as great an influence over the commerce and manufacturing industry of an important portion of the world, as gold itself! The latest news from Japan afford a striking illustration of this fact. That country is disheartened to such an extent by the contentions of rival factions, that it is unsafe for foreigners to leave the seashore. But such is the demand for silkworms' eggs, that dealers in that article penetrate far into the interior to procure them. So extensive is this trade, that the money paid for the eggs has deranged the course of exchange between that country and China, and Europe. The enormous sum of $5,000,000 was paid for them during the two months previous to our latest dates.

The demand for them in this State is rapidly increasing. Silkworms' eggs already form an article of export from California. Such of us as shall be alive in 1878, will see an extensive trade in progress—the result of the germ on exhibition at the present Fair.

APPOINTMENT OF COMMITTEES TO AWARD PREMIUMS.—In order that the fullest satisfaction may be given to all concerned in the matter of premiums, the Board of Managers of the Fair have determined in favor of the election of the judges by ballot, by the exhibitors themselves, at meetings of the several classes of exhibitors, which are to be called from time to time, for that purpose. Such election is to be held under regulations adopted by the Board of Managers, and to be subject to the ratification of the Board of the Institute; the object being that there shall be no wire-pulling whatever, in connection with the matter, and that nobody shall be put into office who is interested.

One of the leading committees has just been appointed in this manner, viz., the Committee on Steam Engines, which consists of Messrs. Wm. Burnett, Supervisory U. S. Inspector of Boilers for the Pacific Coast, Montgomery Fletcher, Chief Engineer of the Mare Island Navy Yard, and C. C. Bemis, Deputy U. S. Inspector of Boilers.

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Recommended by Railway Engineers, Conductors and Expressmen, and the most exacting class of watch-wearers, as superior to all others for strength, steadiness, accuracy and durability.

Unscrupulous importers occasionally place a worthless Swiss imitation in the market. To avoid imposition; the purchaser should invariably demand a certificate of genuineness.

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24v16eow

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TAVERN AND HAND BELLS AND GONGS,
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HYDRAULIC PIPES AND NOZZELS
For Mining purposes, Iron Steam Pipe furnished with Fittings, &c. Coupling Joints of all sizes. Particular attention paid to Distillery Work. Manufacturer of "Oarratt's Patent Improved Journal Metal."
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BY DEWEY & CO., Patent Solicitors.

SAN FRANCISCO, SATURDAY, AUGUST 29, 1868.

VOLUME XVII. Number 9.

Collins' Rock-Breaker.

A new thing in the way of a quartz crusher is the "Oscillating Lithotrihon" of Col. John A. Collins, of Virginia City, the model of which was taken out of its box on Wednesday. The idea is quite original, but it resembles, in principle, the Chili mill more than anything else. A large wheel of massive iron 10 feet in diameter, runs in a trough, like the stamp trough, but not round a center as in the Chili mill; it is a straight trough, and the wheel is moved backward and forward by the crank of an engine, with a rod connection. In order that great pressure may be brought to bear, the wheel is confined above by rollers, being held down by a strong frame and by rubber cushioning behind the rollers. Thus far it is all very simple, and the comparative value of the plan in practice beside the stamp mill, or the well known double iron rollers for crushing, is only a matter of economy as to construction and operation, which is to be determined in no other way to the satisfaction of miners and mining engineers, than by trial. Probably it will find itself in more immediate competition with the double rollers, over which it would have the advantage of crushing as finely as may be desirable, either wet or dry, and with or without quicksilver. A meeting of millmen at Virginia City is said to have given a favorable decision in regard to the machine, and the Superintendent of the Nevada mill has advised its substitution for the stamps in use there; so that it is probable a test will be made as to its merits economically. The great advantage claimed by the inventor is the small amount of power required to drive the wheel in its oscillatory motion, and to accomplish a larger amount of work than could be done by stamping. While the machine is adapted to the finest crushing, it is also claimed to be equally suited to the breaking and reducing of pieces of rock up to twenty inches in diameter. Col. Collins is expected in town in a few days, when his model will be put to a working test. The feeding machinery of the model, though not an essential part of the machine, is a little complicated, and requires the inventor's personal attention in order to make some repairs, before it can be safely submitted to the severities of rock-breaking.

A. ROMAN & Co., whose enterprise in publishiug California works, has given extensive encouragement and employment to native literary talent, are, we believe, reaping a fair reward in the sale of their works. For want of an engagement here, some of our best writers have been compelled to seek a wider and more profitable field of action, and others have been forced into other employments. The success of the *Overland Monthly*, and the occasional publication of meritorious books of a local character, will do much to strengthen and develop a high order of talent among us. Those who want books at wholesale or retail, should bear in mind that this is exclusively a book house.

CLOSE OF THE FAIR.—It has been stated, unofficially, however, that the Mechanics' Fair will close Sept. 8th. Owing to the opening of other Fairs in the State, the exhibition cannot be extended beyond the 12th, no matter how encouraging may be the attendance and receipts.

The Florence Sewing Machine Works.

We give horewith an illustration of the manufacturing establishment of the celebrated Florence Sewing Machines, which is situated in the village of Florence, a place of recent growth, about three miles from Northampton, Mass. The illustration represents the buildings as they will appear when finished; although the entire structure has not yet been completed. The buildings occupy some two or three acres of ground, and the entire manufacture of these celebrated machines is carried on here. A recent visit to this establishment enables us to speak advisedly when we say that a traveler seldom meets with a more perfect system of labor-saving machinery, or a more completo and economical detail of general arrangements, than is seen at this establishment.

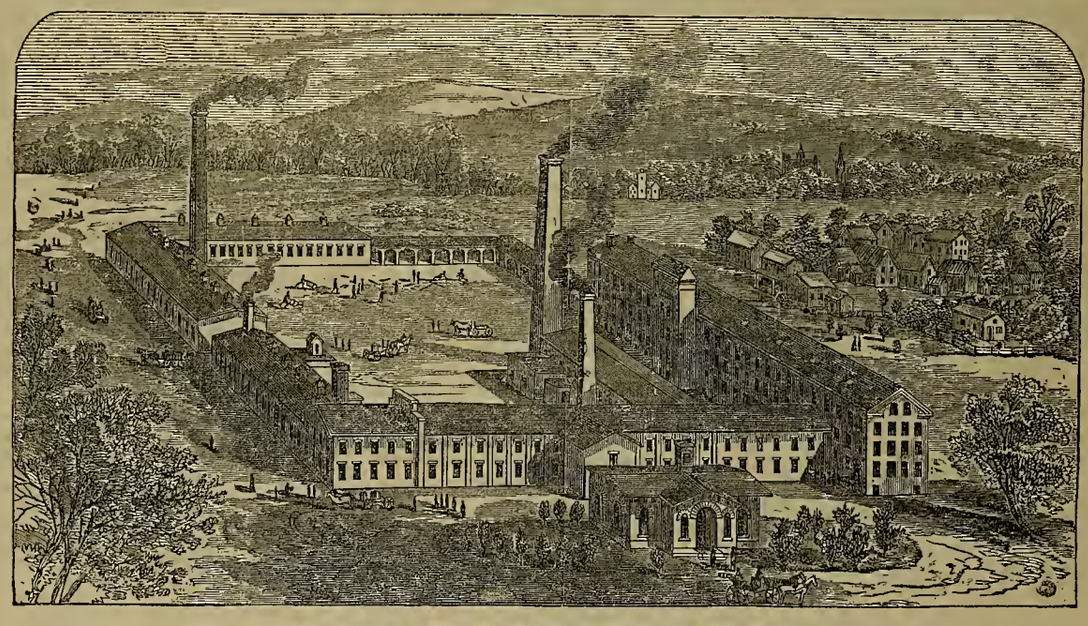
In brisk times, from 250 to 300 men are employed, turning out from 1,000 to 1,200 perfect machines per month. The company provides all the materials and permanent tools used, but a large proportion of the labor is contracted for, by departments, and paid for by the piece, upon its being inspected and accepted by the company's superintendents and experts. By this method many hands and brains are working for self-interest in perfecting machinery and new devices for improving and expediting the work. Such a system of labor-saving machinery (which adds to the perfect uniformity of all the fine and small parts,) is rarely to be found. The best of material is used in the construction of the working parts of every machine, and no piece is accepted, unless upon close examination it stands a perfect test.

The company's outlay, in order to manufacture perfect machinery economically, has certainly been immense; but their success seems to have more than justified the liberal outlay.

The "Vincent Binder," a California invention, is made here; special machinery having lately been prepared for its manufacture on an extensive scale. It is attached to the Florence machine, and is said to be in good favor. Mr. Vincent is an old resident of Stockton, in this State. The Florence machine is decidedly novel and ingenious in construction; in which character it is protected by twelve patents.

When there we had the pleasure of meeting several officers and shareholders of the company, gentlemen of straight-forward business qualifications—like their excellent San Francisco agent, Mr. Samuel Hill, a native and former highly esteemed citizen of Northampton.

In referring to the illustration, the cottage immediately in front of the main structure is the company's office. A portion of the village of Florence, which owes its growth in a large measure to the grand success of this establishment, is seen upon the extreme right. Just across the plain in the rear and to the right of the works, may be seen the silk factories, several of which are established in this locality for the manufacture of sewing silks. In the far distance may be seen a range of mountains, prominent among which is Mount Tom, one of the highest and most noted mountain elevations in New England.



THE FLORENCE SEWING MACHINE FACTORY, AT FLORENCE, MASS.

Although but recently introduced on this coast, the sales in the past year of the machines have exceeded, by nearly $20,000, those of any other sewing machine, as shown by the sworn statements of the different agents at the Internal Revenue Office.

These immense sales, and the rapid advance of this machine in public favor, especially in view of the fierce competition existing in this branch of trade, attest the genuine merit of the Florence machine.

We are not disposed to over-commend anything placed before the public for its suffrage; but from personal knowledge of the Florence machines, from a careful inspection of its operation in the hands of many of our friends, we have no hesitation in pronouncing them inferior to none, to say nothing of their many decided advantages.

While a large number of sewing machines have been offered to the public, some of which possess points of excellence and acknowledged merit, the necessity of a machine, more perfect in its mechanical construction, has long been felt—a machine combining in the highest degree, *simplicity* with *durability*; and one which, while capable of doing a *greater range of work*, could be easily understood and comprehended by all.

To supply a machine, free from the objections attached to others, has been no easy task. By a liberal expenditure of capital and the patient, untiring labor of years, this is boldly claimed to have been accomplished by the Florence Sewing Machine Company.

Discarding the chain and loop or knit stitches, this company adopts the lock stitch (alike on both sides of the fabric), which is regarded by many as best suited to all kinds of work. They also add the knot stitch, which is said to be *stronger and more elastic* than the lock; thus enabling the operator to select a stitch perfectly suited to every grade of fabric, and when necessary, to sew seams much stronger than it is possible to do by hand.

It has a *reversible feed motion*, which enables the operator, by simply turning a thumb-screw, to have the work run either to the right or left; to stay any part of a seam, or fasten the ends of the seam without stopping the machine or turning the fabric. It runs lightly and sews rapidly; it does the heaviest or lightest work *without change of tension or machinery*. This, in our opinion, is one of its most useful features.

For want of space, we cannot speak further of the many and peculiar advantages of this new machine. All will be well repaid, even if they do not wish to purchase, by examining the beautiful working of the Florence, either at the Pavilion, or at the salesroom, 111 Montgomery street.

NEW ENTRIES.—Nine or ten new articles are still coming in every day, and many of them are either interesting or important. E. E. Winchell has brought in a Rohrer's portable blacksmith's forge, weighing 160 pounds, and measuring, when closed up, 20x31 inches. Besides which there may be mentioned a new kind of quartz mill by V. Smith, an amalgamator by Dewey & Co., a new churn by J. N. Seely, etc.

Our Industrial Fair.

[From the Mechanics' Fair Daily Press.]

General Review of the Exhibition.

CLASS IX.

Glass, Pottery, and Clay Ware.

The Pacific Glass Works, Bennett & Co., whose factory is at the corner of Iowa and Mariposa streets at the Potrero, make a fine exhibition of all the more useful articles which are demanded by the trade on this coast. They are chiefly of the common bottle-green color, which is given to the glass by an infinitesimal quantity of the protoxide of iron, incidentally intermixed. Every variety of ordinarily useful bottle may be seen, besides an assortment of willow-cased demijohns, carboys, etc., all of which may also be seen at John Taylor & Co.'s, the agents, No. 514 Washington street. These are the only glass works in operation at the present time on the Pacific coast.

The San Francisco Glass Works were destroyed by fire some time ago, notwithstanding which they are represented by a very fine display at the Fair, including everything that is made at ordinary glass factories, useful as well as ornamental and astouishing. There are bottles of all sizes and colors, cups for ordinary and chemical uses, a speaking trumpet, rods, tubes, canes, flag-poles, stoppers, vases, balls, bollow globes for lamps, carboys, ship-lights, ink bottles, vials, etc.; in short all kinds of flint, German flint, and green and black glass ware. The chimney of the late works may be seen standing on Townsend street, between Third and Fourth. We are pleased to learn that these works are to be rebuilt speedily. The proprietor, Carlton Newman, has been struggling energetically for the establishment of a creditable industry, and is deserving of encouragement and support.

Glass-cutting on plain, colored and ground glass, is represented, by Thomas O'Neill, and by John Mallon, who execute all kinds of lettering and ornamental work, desirable for signs, doors, sky-lights, church windows, domes, etc.

Mirrors of the richest quality and appearance may be seen in the art gallery, placed there by Whittman, Fuller & Co., at the southern end, with very tasteful plain frames, and by Jones & Wooll at the northern end, with gilded frames.

Robert Mills also has some beautiful mirrors to the left of the fountain, and some artistic colored glass paintings, for church windows and the like, which may be observed in the windows above the gallery at the western end of the Pavilion, viz: "Christ on the Cross," a horse, a little shepherdess, a dove, and some ornamental designs.

Sign-painting on glass is represented by N. V. Gallagher, J. W. Cherry and Sweett & Gadsby.

Fine imported porcelain and glassware, statuary, etc., are exhibited by R. A. Swain, and by Haynes & Lawton. The beautiful glass cases of these firms, and the contents thereof, display more of the luxurious tastefulness of opulence than anything else in the exhibition. The former show imported crockery, glassware, white and decorated China, looking glasses, goblets, statuary, etc.; the latter make table articles and silver plate more of a specialty.

One of the most interesting exhibitions in any department, is that of Issac Lohree & Co., representing the Golden State Pottery Works at Antioch, Contra Costa County, the trade depot of which is at No. 516 Commercial street. It comprises a very creditable showing of almost all varieties of stoneware, earthenware, Rockingham ware, flower-pots, water and drain pipes, yellow ware, stove linings, fire-brick, fire tile, retorts, tanks, tubs, etc., entirely of home manufacture, and offered to the trade at 25 per cent. cheaper than the imported ware. We noticed also churns, water-filters, drain pipes, beer bottles, hacks and cheeks for mantels made of stone ware; also pitchers and spittoons made of Rockingham ware.

The material is procured mainly in the vicinity of the works in Contra Costa County. Many of the articles are ornamented with artistic bas reliefs of figures and flowers.

The pottery works at the Mission have been discontinued, so that this is now the only extensive enterprise of the kind in operation in the State.

Water and drain pipes made of asphaltum cement, are exhibited by Egan Brothers, and Wise & Robinson. The same material as applied to roofing and paving, is exhibited in models.

The Benicia Cement Works have a large number of kegs of their commercial article, together with specimens of the cement after it has become fixed. The capacity of the works is 300 barrels a day.

Brick is not represented at all. An opportunity to test and compare the productions of different localities, which are competing in the supply of the San Francisco market, ought to have been afforded to the numerous lot-holders and expectant builders who visit the Fair, and the result could not have been otherwise than beneficial to the manufacturers of the best article.

Allied natural productions, which belong to different classes, are the "electro silicon," or "magic brilliant," intended for family polishing, a kind of fine chalk, which is exhibited amongst the articles of table ware without name or locality of production; and the mineral or rock paints of O. A. Olmstead, from Olmstead's Mills, in Sonoma county, of which there are twelve varieties of color.

CLASS X.

Wood and Wood Work.

Owing to increased pressure both for time and space we shall be restricted to a "mere mention" of many important articles, which may be taken up, however, and treated separately hereafter.

Elam & Howes exhibit buckets, tubs, hoxes, kegs, wash-boards, refrigerators, butter kits, churne, washing machines, strawherry baskets, broom and pail bandles, potato mashers, towel and bread rollers, etc; all of their own manufacture.

Geo. L. Wenzel exhibits specimens of California oak from Clear Lake, and some coopering of that material, which has the advantage of never being worm eaten. Oak is very plentiful in the section named, the trees growing from 3 to 6½ feet in diameter, and 40 to 80 feet in hight.

Brush and broom manufactures are exhibited by the San Francisco Brush Factory, G. M. Zan, and by the California Brush Factory, each varying a little from the other in their specialty.

Edward Galpen also exhibits wooden ware, similar to Elam & Howes'.

Shingles are turned out every evening by F. A. Huntington's shingle making machine, at the rate, when worked up to time, of 3,000 an hour. This machine was built by Geo. T. Pracy, at 109 Mission street, and deserves further notice at a future time.

Splendid specimens of California laurel may be seen in the Music Room, representing the establishment of John D. Boyd, equal in effect to the finest productions of tropical forests.

Specimens of graining, imitation mosaic and inlaid work, are shown by Boyd, Geo. A. Brush, C. Roemer and Wm. O'Day. Roemer shows a beautiful pillar made out of different ornamental woods. J. Rolland sbows samples of inlaid floors.

A hand-organ of fine inlaid work, made in Europe, is labelled "In commemoration of the Hayes & Higgins election bet, Sept. 11, 1867." But the most elaborate specimen of inlaid work is the Japanese cabinet in the music room, without label.

The Pacific Barrel Company, Fliut, Peabody & Co., exhibit machine-made staves and barrels of pine wood grown in California. Their factory is at the Potrero.

Fulda & Son make a fine exhibition in wine cooperage. They have three very large tuns, two of them for R. Snyder, of Sonoma county. An oval one, made to fit into a recess in Mr. Snyder's cellar, contains 890 gallons, and cost 18 cents per gallon, or $160 20.

Sturger's improved weather-proof window frame has the sash grooved and running on a raised strip in the frame. The wind and weather proof results aimed at are effectively attained in a simple manner.

Lasts are exhibited by Shephard & Carroll, and Peter H. Fluck, of the natural form of the foot.

A stave-jointer and gauging machine are exhibited by J. W. Alesworth, of Santa Cruz, which have already been noticed.

Washing machines are on hand in numbers. There is the Dixie, a simple lever arrangement which rubs and rolls; the Rasmussen, similar to the Dixie in principle, but double and more complicated; the Pioneer Washer, an oscillating rotary machine, being simply a contrivance by which four tusks are made to reach down into the tub, and to rotate the clothing first one way and then the other; the Wolverine, a kind of mill in which the clothing is made to pass between revolving rollers; the Patterson Combined Washer and Wringer, exhibited by Miss A. W. McClellan, in which the clothing lies on a ribbed bottom and is rolled over by a large ribbed roller weighing sixty pounds; and the Vail machine, for blankets and similar heavy articles, which looks like, and is nothing but a small wooden stamp mill, in which the article is pounded in soap suds until it is clean.

School furniture of a substantial character, with iron under-pinning, is exhibited from Warren Holt's Pacific School Institute.

In general furniture, Johnson & Best show a splendid black walnut hook-case, and other office furniture; Bryant & Strahan, a magnificent side-board, with carved birds of very artistic execution; Wigmore & Palmer, a variety of school-room, office and library furniture, of very superior execution, amongst which the Pompeiian Secretary, in imitation of designs from the buried city, is especially worthy of examination; N. P. Cole, a variety of California rosewood and laurel, and some black walnut pieces; Goodwin & Co., fine rosewood furniture and chairs; Huntington & Co., bedding with rubber springs.

Hat and wig blocks are exhibited by Gifford & Linsley.

Outside there is a gigantic pine stern knee from Stillighomish Slough, W. T., cut for the California Steam Navigation Co., which is 17 feet long, and has a throat of 4 feet 6 inches; a pine log, sawed at Port Ludlow, W. T., 28 by 32 inches in dimensions, 48 feet long, and containing 3,580 feet of lumber, having been cut for the San Marcial Silver Mining Company; and a log of California laurel, cut by L. E. Thayer, 2½ feet square and 50 feet long.

Snow & Roos exhibit picture frames; G. A. British shows walnut doors with oak casing; Feldman & Co., and Thurnaur & Zinn, willow ware; and P. Gibot, spiral stairs.

CLASS XI.

Minerals.

Kustel's collection is the leading feature of the exhibition in this department. It is a very complete methodical collection, comprising crystallized and characteristic specimens of all the commonly found species, and especially of the leading gold, silver, copper, lead and iron ores. It is just such a collection as everybody must have access to that desires to become familiarized in any degree with minerology. The labor and careful attention of years is usually necessary for the collection of a cabinet of this character and quality of specimens. More showy cabinets can be seen in any mining camp; but the difference is very easily discerned by all who have learned to distinguish pyrites from gold, or zinc blende from the sulpburet of silver.

Specimens of meerschaum and amber, in their raw state, may be seen in the show-case of Charles Kohlman, pipe manufacturer.

There are three cases of lava specimens from Mauna Loa, in the Sandwich Islands, taken from the lava streams of the recent eruption.

Copper ores, embracing carbonates, sulphates, silicates, the red oxide and native copper, are exhibited from the Planet mine of William's Fork, Arizona; some of them assaying 50, and even 60 per cent. of copper.

The North Star gold mine of Grass Valley exhibits a splendid lot of specimens, some of them of very large size, which are valuable as showing stratification in veins, and thereby disproving the possibility of volcanic ejection, in the filling up of those veins with quartz, pyrites and gold. A box of cleaned pyrites, washed in Hendy's Concentrator, has just been added to the mining department.

Copper and silver ores are also exhibited from the Morning Star gold and silver mine of Mogul, Alpine County.

CLASS XII.

Chemistry and Chemical Substances.

Chemical manufacturing, though quite in its infancy on the Pacific coast, is already entered upon by competing firms, which display considerable energy within the limited field opened to them by the demands of the market. They are very poorly represented at the Exhibition, for some reason or other; possibly because they may not care to have each other's productions canvassed and compared.

Crane & Brigham exhibit crystallized sulphate of copper, or blue vitriol, of which hundreds of tons are used annually to preserve wheat from smut. It is made from low grade copper ores. The works are at Hunter's Point.

The San Francisco Chemical Works, Falkenau & Hanks, exhibit some large crystals of sal soda—carbonate of soda—which is made of common salt from sulphuric acid, and subsequent decomposition of the sulphate of soda so obtained by means of sawdust and lime, changing the sulphate into carbonate. Nitric, sulphuric and muriatic acids, besides other chemicals, are made by this firm, but are not exhibited. The works are on Sixteenth street, between Folsom and Harrison.

The Golden City Chemical Works are not represented.

J. B. Parsons & Co. exhibit Bowman's American washing compound; Boyd's yeast powders are represented by numerous packages; the "giant powder" proclaims its own qualities, by the effects which were produced by half an ounce of it upon an iron shell, and by its utter harmlessness to a box, filled with it, which was thrown into the air. Tuck, Horstman & Co. exhibit crystals of sal soda; Charles Bernard exhibits, amongst other things, cream of tartar—hi-tartrate of potash, being the sediment which deposits itself in wine casks—and saleratus, or prepared pearlash; Dr. Tolman shows some "California seidlitz powders," which are made from materials expressly for the California trade; Eberhart & Lachman, wine dealers, have on exhibition a fine photograph of the Napa soda springs; Donnolly & Co. exhibit their premium yeast powders, composed chiefly of saleratus; also some saleratus, and cream of tartar.

Salt is exhibited by numerous firms, and from localities both far and near. The Union Pacific Salt Company have some from Turk's Island, and from San Quentin and Plummer's salt works at San José Mission; also some Pembroke table salt, and pork packing salt.

B. F. Barton, of the Pioneer Salt Works, exhibits English salt, two carbonates of soda, and cream of tartar.

Holliday & Brenham exhibit Carmen Island salt, of which substance, as a curiosity, there is a crystallized cross, etc.

Perfumery and toilet articles are exhibited in considerable quantity and variety, with fine effect, by J. W. Angel, apothecary.

CLASS XIII.

Jewelery, Silver and Plated Ware, Etc.

Braverman & Levy have two large cases full of the finest specimens of gold and silver ware. Art has been called into requisition in the execution of some exquisitely beautiful designs, in polished and rough silver. There are salvers, knives and forks, goblets, drinking cups, pitchers, cases of spoons, bells, etc., exhibiting a great fertility of richness and luxury.

Bronze aluminum, an alloy which can scarcely be distinguished from gold, consisting mainly of copper and aluminum, is represented in a case of articles of jewelry from the shop of J. Levy. The metal is light and flexible, hard as steel, and will not rust. Table articles, spoons, watches, match safes, ear-rings, bridle buckles, spurs, etc., comprise the principal subjects of its application.

Carl H. Hain exhibits an astronomical clock, showing the time of a dozen of the leading cities of the globe, by means of an equal number of dials surrounding the main dial; also some very tasteful wall clocks, with black walnut finishing; and the Howard and Elgin watches with their works exposed to view; besides miscellaneous jewelry, as pitchers, goblets, spoons, napkin rings, and the like, of California manufacture.

Vanderslice exhibits a fine array of solid silver ware of California manufacture, consisting of plates and other table articles, spoons, forks, etc.

John Martell exhibits specimens of silver plating; and D. Josepb, of engraving on plate, including door-plates and bell-pulls. Price's silver-plated cutlery comes under the same bead. E. G. Dennison, of the San Francisco Plating Works, shows a variety of plated ware, which cannot be distinguished from the solid article. Oakley & Rosekrans exhibit plated door-plates, bells, numbers, and other plated ware for houses and ships.

The case of Haynes & Lawton contains some of the finest specimens of plated ware, which is made a specialty of by them, as agents for the Pacific Plate Works.

The large clock on the front gallery which gives time for the Exhibition, was manufactured by H. Wenzel. Its works can be inspected through glass.

An ingenious watch alarm by Theodore Hollander, by which any ordinary watch may be made to give an alarm, can be seen in the Art Gallery.

F. Heiuze exhibits dials for watches and clocks.

Swords, shoulder-starps, epaulettes, and other military and naval paraphernalia, principally of gold or gold plated, are exhibited by T. Rodgers Johnson, and by Blake & Co.

Galvano plastics are well represented by a case of successfully executed copies of some of the finest bas reliefs and figures produced by first class artists of this or any other country—placed there by R. Rocchioli, silver plater and engraver. Many of the articles are of gold or gold plated. Persons who love to see artistic things worked out in gold or silver, will find very much to gratify them in Mr. Rocchioli's exhibition. There are besides numerous very natural and perfect figures and faces, some tasteful candelabrias, and a large piece of plate containing the Constitution, with bas reliefs of Washington, Webster and Clay.

CLASS XIV.

Printing, Engraving, Lithography, Book-Binding and Paper-Making.

Under printing there is little to be described. A noteworthy article, of historical importance, is the first printing-press manufactured on this coast, by Palmer, Knox & Co., for Faulkner & Co., which may be seen in the machine department. It is an improved Washington press, with a flat knuckle, and rubber instead of steel coil springs.

The only additional printing press to be seen in the Pavilion, is that on which the FAIR PRESS is struck off nightly, by Dewey & Co., of the MINING AND SCIENTIFIC PRESS.

The type foundry of Faulkner & Co. is an interesting thing to examine. Type are cast with such rapidity that it requires close attention to see how it is done. Specimens of the type manufactured by Faulkner & Co. are also exhibited.

Paper manufacturing is carried on by two busy establishments—the San Lorenzo Mills and the Pioneer Mills, for both of which S. ". Taylor is the agent. The article produced is chiefly wrapping paper of various colors and degrees of fineness, made of straw. There are large stacks on exhibition from both mills.

In stationery and blank books, John G. Hodge & Co., Geo. B. Hitchcock and Wm. B. Cooke are represented. Hodge has a fine case full of blank books, gold pens, rulers, tacks, chess boards, bill-heads, paper, portfolios, cash boxes, letter presses, stamping presses, branding irons, etc.

Hitchcock occupies considerable space very creditably to his establishment, in the rear gallery. Everything exhibited by him is of superb quality. The large letter presses are of California manufacture, and the wooden cabinets on which they stand are of California laurel. Stately ledgers, with beautiful and very substantial binding, and a great variety of other blank books, may be seen in his case.

Cooke makes a fine display of similar articles, including cash boxes, etc. His wholesale price list is hung up for examination, and a small pamphlet catalogue of goods may be had on application.

Sumner Whitney & Co., publishers and importers of law books, exhibit a case containing volumes of nicely bound California Reports and Digests, and a pocket edition of the Civil Practice Act.

H. H. Bancroft & Co. have on exhibition a case containing all their own publications, making a very instructive and appropriate subject for examination by the visitor. One is favorably struck with the number of large and costly publications which have been given to the public of California by that enterprising house—such as Hittell's and Labatt's Digests, Tuthill's History of California, Cronise's Natural Wealth of the State, Ross Browne's Resources, besides numerous form-books, minor publications, and maps.

H. C. Bateman exhibits some splendidly bound imported books.

Valuable and interesting specimens of the typographical art are exhibed by Cuhery & Co., book and job printers, viz: A portrait of Guttenberg, the inventor of printing, made of movable type, consisting entirely of light and heavy dots, having required two years of some patient German's life to execute it; a similar engraving, representing a bird and some flowers, over water; and a scrap book, filled with specimens of excellent ordinary printing.

The engravings of California production are: Gifford's Birdseye View of the City and County of San Francisco, executed by W. Vallence Gray, and of very natural effect at a little distance, overlooking the peninsula from the direction of Mount Diablo, and vanishing in the ocean line; Goddard's Birdseye View of the same, looked at from the ocean, embracing the topography of the entire country surrounding the bay, and looking beyond into Sacramento Valley, and as far as the Sierra Nevada, the publishers being Snow & Roos, and the lithographers Britton & Rey; the diplomas issued by various societies and institutions, as the Mechanics' Institute, State Agricultural Society, Pacific Business College, etc.; several frames of beautifully executed monograms, crests and cards, by H. Payot; a fine lithograph of the American Exchange Hotel, with portraits of B. and T. Sargent, by Baker; a frame of wood engravings, executed in the best style of the xylographic art, by Miss A. W. McClelland, a pupil of the Cooper Institute School of Design; and several very fine English steel engravings, by Snow & Roos, viz: The Railway Station, and the Intellect and Valor of Great Britain; besides which there are some very perfect French and German chromo lithographs.

Penmanship is well represented. The finest is that of F. Scregni, of the Pacific Business College. There is a copy of the Constitution, by J. L. Fields, of the Pacific Business College; St. George and the Dragon, by the same; the Declaration of Independence, by E. P. Heald; a large frame of very fine ornamental lettering, by L. M. Fernandez; the Emancipation Proclamation, by Mrs. R. A. Hopkins; specimens of Speuccrian penmanship, and several well executed hands, a scroll, and a horse, etc., by Pedro A. Espina, of San José; ornamental cards, by Waller Wallace; a portrait of Lincoln, by E. S. Colhuru; and a Letter from George Washington dated Philadelphia, and addressed to "My dear Tarry," in a plain, substantial and agreeably impressing hand.

CLASS XV.

Carriages and Wagons.

Manufacturers of carriages have interested themselves in the Fair, and the result is a good showing of their best productions. The first thing to catch the eye is F. A. Huntington's patent buggy spring, which is applied to buggies manufactured by A. Folsom, and intended to secure the advantages of cheapness, lightness, strength, and durability. It is a wooden, double lever side spring, with rubber cylinders acting as a fulcrum, to afford the elasticity.

A serviceable express buggy with side springs, is exhibited by the Pacific Union Express Company.

Harris & O'Brien exhibit a lever side spring buggy, similar to the one above mentioned, except that the elasticity is afforded by spiral springs at the end of the lever. Also a race-track wagon, weighing 100 pounds, with spring seats to break the jar, merely, of the vehicle; an advantage which is secured by means of four rubber supports in tubes under the four corners of the seat.

Another peculiar adaptation of the wooden side lever spring, is shown in a plain buggy having rubber as the elastic principle.

Folsom exhibits two very handsome light buggies, embodying the American idea of limberness with the best quality, and dispensing with all dead weight.

Kimball has quite a number of buggies with the "C" or Kimball spring, of exceedingly light and neat appearance. The C spring is a wooden bow with a leather strap sustaining the bow, as in the Concord stages. There are besides, by Kimball, a very stylish barouche, for four horses, a pony phæton weighing 250 pounds, with end springs, four more buggies of different designs, and a hotel side-seat omnibus.

John Aylward, of San José, exhibits a strong, neat, serviceable buggy, with old style end springs, and strength enough to withstand Russian usage.

Gallagher Brothers exhibit a well-made common market cart.

Casebolt & Kerr show four serviceable top buggies, very neat and light, with end springs, and two similar ones without tops; also a case of silver-plated carriage fixtures of beautiful design and finish.

A velocipedo of California invention and original construction, is exhibited by Chas. A. Way. The third wheel, which serves as guiding wheel, is behind the back of the occupant, and is controlled by his feet through the agency of connecting rods.

THE MEUSSDORFFER BROTHERS, whose extensive business demands the establishment of branch houses at Marysville, Sacramento and Portland, are men of real genius in their line. The writer has been familiar with their manufactures, extending over a period of many years, during which time the uniformly good character of their articles have been fully sustained. We know their interesting history from the fatherland, and their early struggle as pioneers in our own State. They have been a race of hatters from generation to generation, and all the secrets of the craft are in their possession, while they are not wanting in experience, having worked as journeymen in some of the first establishments of the trade on the eastern continent, before their advent on these shores.

Scientific Miscellany.

DEPOSITION OF IRON BY GALVANISM.—When ordinary green vitriol is dissolved in water, and the solution connected with the copper cylinder of a single Daniell's element, by means of an iron plate which plunges into the solution, whilst another metallic plate, also plunged in the solution, and on which it is wished to deposit the iron, is connected with the zinc of the battery, this is what we observe: When both plates are of about the same size, it is true that a thin coating of iron will be obtained, but it will remain very thin, and generally an abundant evolution of gas will occur. But if we now place in the solution, and in connection with the iron plate, a notable quantity of rolled iron wire, the deposit of metallic iron will be increased in thickness comparatively with its surface, and the work proceeds with regularity. But the iron thus precipitated has a strong tendency to become warty on the edges; it is very rough, and so hard that a good English file can scarcely touch it. It is, however, so malleable that it can be rolled round a glass tube.

The vessel in which the iron solution is contained must be large enough to allow the two plates to be at least four or five inches apart, and it is perhaps best to separate them by means of a glass diaphragm which does not reach to the bottom of the liquid. According to Dr. Varrentrapp, an iron coating thus deposited upon a model will be as sharp as a copper deposit, provided the model be thinly coated with silver, and then blackened by being immersed for a short time in a solution of sulphureted hydrogen; this also allows the iron deposit to be easily detached without losing its form, even when it is no thicker than a sheet of paper.—*Scientific Review.*

GLACIERS IN THE WHITE MOUNTAINS.—Geo. L. Vose, in a paper upon the subject published in the *American Naturalist* for August, has the following:

There is at first sight a marked difference between the glacial furrows and polishing in the Old World and in the New. In Europe these marks upon the rocks are found in certain mountain regions, and always referring us by their direction to the higher parts of the mountain groups; thus showing that the glaciers moved down from the higher to the lower lands. This is plainly seen in the Alps, in Scandinavia and Great Britain. In America, the traces upon the rocks, as a general thing, appear to have been produced by a far more wide-spread operation, inasmuch as the furrows have a prevailing southerly direction, regardless of topographical features to a remarkable extent, as they pass directly over and across some of the largest ranges of mountains. Throughout New England, the most common course of the furrows is about S. S. E. The wide extent of these traces would seem to point to some very general operation as a cause.

The author proceeds to call attention to a different class of traces, which seem to show that in addition to the above general operation there have been local glaciers, belonging to separate mountain groups, and moving down the valleys in various directions.

STONE IMPLEMENTS IN INDIA.—At a recent meeting of the Geological Society of London, R. Bruce Foote, Esq., F. G. S., read a paper upon this subject. The implements found in Southern India are nearly all of quartzite, and show a marked similarity, as regards their type, with the flint implements of Europe—suggesting the common origin of the races which peopled the two countries.

THE SEA IN PAST EPOCHS.—Andrew Murray, Esq., F. L. S., in opposition to Sir Charles Lyell, thinks that instead of the proportion of dry land to sea having always been the same, and its volume above the level of the sea a constant quantity, they are constantly increasing, while both the mean and extreme depths of the sea are constantly diminishing; the cause being the extreme affinity which water has for the constituent elements of minerals. In illustration of his view, he quotes the so-called upheaval of coral islands as being really caused by a diminution in the volume of the sea.

Mechanical.

Corrosion of Marine Boilers.

The rapid deterioration of marine boilers by corrosion is often inexplicable by any sensible theory. Sometimes one side of the steam space is attacked, while the other remains untouched. In boilers, similar in every respect, corrosion takes place in one on the right side, in another on the left. Now it is the portion nearest the funnel which suffers most; again it is a single plate furthest from the uptake that is eaten away. At one time the plates attacked are deeply pitted, at another the iron exfoliates in flakes. The *Engineer* advances the following theory upon the subject; not insisting that it is perfectly satisfactory, but believing it the most so of any which have been offered: "The most probable solution of the problem is found in the effect produced by pure distilled water on wrought-iron. It is now perfectly well known that distilled water from surface-condensers rapidly destroys the plates of boilers, and in order to protect them it is necessary that sufficient salt water be admitted from time to time to maintain a thin coat of scale. If it can be demonstrated that pure water is brought into contact with the plates of a steam-chest, we can at once establish a reasonable theory to account for their corrosion, as like causes usually produce like effects. Now, marine boilers are alternately hard-worked and left at rest when the fires are drawn; as the boiler cools down, pure distilled water will be precipitated on the steam-chest plates by the condensation of the steam, and the water may be present in sufficient quantity, and the precipitating process may be sufficiently often repeated to render the corrosion explicable." The journal above-named considers Mr. Bourne's theory, that the corrosion is due to the action of superheated steam, untenable; and says that unless it can be proved that superheated steam is present in one place and not in another, it is difficult to see why one plate should suffer more than another. It is true that superheated steam much hotter than 280° disintegrates *cast* iron; but it has yet to be demonstrated that any corrosive effect of a similar character, or indeed of any kind, is exercised on wrought-iron.

CHEAP STEEL RAILS. — In an article on the question whether steel rails of good quality can be made at a reasonable cost, *The Engineer* has the following:

At the last meeting of the Institution of Naval Architects, Mr. Rochussen exhibited specimens of puddled steel plate quite homogeneous in texture, produced from a single bloom weighing 150 lbs. These specimens were compared with puddled steel plates rolled from a hammered pile made of shingled bars, and showed a finer grain, and a tensile strain of 51 tons per square inch, as against 31 tons. Their ductility was less, but there was reason to believe that it was not too small for rails, and therefore it was determined to endeavor to produce rails in the same way. A single puddled ball is not large enough to produce a rail, and attempts had been made to weld two or more balls together under a 25 cwt. hammer without success. Either the blooms would not hold together, or the resulting rail lacked homogeneity, and was correspondingly bad. A fresh experiment was made with a 12-ton hammer, and the result has so far been eminently satisfactory, excellent rails having been produced at the Hoerder Iron and Steel Works, Westphalia, within the last few weeks, by welding together three or four balls into one homogeneous bloom. The faces of the hammer and of the anvil are concave, so as to keep the metal together, and not only is the slag driven out, but the weld is perfection. The rails rolled from these blooms have a grain almost as fine as cast steel, and much finer than that of rails made in the old way from bar piles. The crop-ends, when slowly and strongly heated, can be rolled with ease into flat or round bars, plates, or light tram rails, so that there is no waste of material. All the expense of shingling, cutting, and piling, is saved, and considerable economy of fuel, room, plant, and capital secured—in a word, we have here an extension of the principle of getting the greatest amount of work out of a given number of heats. The experiments are still in progress, and even better results than those already obtained are likely to tend on improvements in a method of manufacture yet in its infancy. The essentials to the success of the process appear to be getting the puddle balls all to the anvil at the same time and then applying very great hammer power, while the balls are at the hottest.

General Review of the Exhibition.

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CLASS XVI.

Leather and Leather Work.

Edward Galpen & Co. show a largs assortment of valises and trunks.

W. Bloom, wool puller and sbeepskin tanner exhibits, some bundles of leatber of bis own production.

S. Hoffman & Co., tanners and curriers, exhibit calfskin and hoot leathcr of their own manufacture, in whicb branch tbey "defy Frencb or Eastern competition."

H. Royer exhibits fulled rawhide, and some leather belts and lacing made of tbat material.

M. M. Cook & Son exhibit heavy beltings, with a patent brass eyelet to serve as a fastener, wbich has many advantages over the ordinary string fastening; also hose, fire nozzles, fire buckets, and horss collars of superior quality.

Very substantial fire hose and nozzlss are exhibited by John J. Fulton.

Boxing gloves are shown, in the midst of more sanguine weapons, by Liddle & Kaeding.

Trunks and bags of leatbsr are exhibited in considerahle variety by Heuston, Hastings & Co.

A large and splendid assortment of California made leather of the best quality that can he bought, together with some imported specimens, are exhibited by Tyler, Curtis & Co.

The Pacific Tannery Boot and Sboe Company exhibit not only a large snpply of fine home-made leather, but an extensive assortment of sboes manufactured therefrom.

The Singer Sewing Macbine Company exhibit a case of uppers made on the Singer machine; tbe Cooperative Union has a case of delicate ladies' shoes, neat and Frenchy in style; Wentworth, Hobart & Co. ehow eimilar work, besides beavier articles intended for use, hung up and in cases; a sewed sole lies on the table alongside, illustrating the serviceable character of the soles turned out by that firm; Buckingham & Hecht exhibit a large quantity of the kind and quality of shoes most called for, and attract the curious hy a euspended brogan weigbing 39½ pounds, and of size "No. 105," the uppers of this shop being stitched on Grover & Baker's sewiug machine; W. T. Burke exbibits light and heavy ladies' shoes; amongst the latter a very neat and wholesomely substantial looking article, be sides 26 samples of shoe work hy as many different hands, illustra'ing individualities in executiou; P. Kelly, men's fency riding boots, and ladies' shoes; aud L. Price, light and fancy ladies' shoes.

Saddlery is represented by G. Vallinger, who exbibits two ladies saddles with douhle horns; by Main & Winchester, in a splendid exhibition of everything helonging to the trade, including saddles, barness, whips, and a etuffed horse; and hy Joseph Hamilton, wbo sbows a circus pad made for Miss Lee, and a $25 lady's saddle.

CLASS XVII.

Sign, House and Carriage Painting.

More tban a dozen firms are represented in tbis department, and tbeir productions are located on tbe walls at tbe rear end of tbe main building, and around tbe fountaiu.

Tbree splendid sample letters, "BAT," by H. M. Newball & Co., on glass, are probably tbe most elaborate tbing shown, of the kind.

John W. Cberry exhibits block letters, and ordinary painted signs, on wood and on glass. Jester & Hicks, and H. M. Rosekrans have their names represented in the same place.

Robert Mills, John Mallon, and Thomas O'Neill, glass painters and cutters, show specimens of their work in the vicinity of the fountain, and in the windows above the rear gallery.

Block letters aud carved sign work are further represented by Paul Gihot, at the eutrance to the Music Room.

Metallic signs of polished and rich finisb, are shown at the rear gallery steps, by Andrade & Patterson, who advertise to do work at New York prices.

In the same vicinity are Sweett & Gadsby, ordinary sign painters; and George M. Wood and F. M. Truworthy, steucil plate cutters.

CLASS XVIII.

Furniture, Upholstery, Billiard Tables, and like Work for Amusement.

This subject has been partly disposed of under "Wood and Wood Work, Class X." The names of the firms may be again mentioned: Goodwin & Co., N. P. Cole & Co., Wigmore & Palmer, Johnson & Best, and tbe Pacific School Institute of Warren Holt. Slocum & Kinzer, of San José, exbibit a patent hed spring of vulcanized rubber attacbed to the ends of wooden slats, the effect of wbich is more satisfactory tban would he supposed on merely looking at it.

An interesting feature in this department is ths Elastic Sponge Company's exhibition of tbe application of scraps of Florida sponge for cusbions, to supply the place of bair. The sponges are gathered and dried on tbe Florida banks, and shipped to New Lebanon, New Hampshire, where they are deodorized, cleansed, saturated with glycerine, dried, and baled by means of powerful presses into compact bundles of 40 to 100 pounds. As proof of the remarkably elastic properties of sponge, Dr. Ferris opens little hundles whicb have been lying for weeks pressed into tbe solidity and compactness of wood. The little scraps open up gradually but surely, into a heap so large as to excite the wonder of the spectator.

Billiard tables are exhibited by P. Liesenfeld, of laurel; one with pockets at tbe corners, which may be closed wheu desired by a patent swallow tail shaped cushioned hlock, and anotber smaller one, without pockets; and hy Strahle & Hughes, of laurel and rosewood combined, without pockets.

Wood carving on furniture is represented hy a master hand, in a turkey and other fowl carved on Bryant & Strahan's splendid sideboard, at the left entrance to the Art Gallery.

"*Le Militaire*" is a Frencb naming of what looks like and ought to be a Yankee idea. It is an improvement on bowling, in tbe matter of setting up the pins merely, end returning the balls to the player, whereby the services of a boy can he dispensed with. By means of a wire with a lever at one end, and string attacbments to tbe ninepins at the other end of the alley, the player sets up all the prostrate pins by one motion of the hand, and then relaxes the strings again by returuing the lever to its original place. It is exbibited by J. D. Patrick, inventor, of San Francisco.

CLASS XIX.

Stone Cutting, Artificial Stone, Polishing Material, Plaster Casts and Sculpture.

Tbe builders and stone-cutters, like the brick-makers, bave deemed their material too common to be worthy of exhibition—erroneously—and have therefore seut nothto the Fair.

Ransome's artificial stone, exhibited unthe name of E. T. Steen, was being made under the eyes of visitors at the entrance to the agricultural department, a few days a;o, but the operations have recently taken o1 an appearance of repose. Specimens may be seen, however, of small articles of oruament, manufactured from oemented sand, hy this process, which was patented in London eigbt or ten years ago.

A California grind stone, five feet in diameter, is exhibited by F. Robinson, of Vallejo Mills.

Redington & Co. exhibit polisbing material from Nevada, under the name of electro silicon, or magic brilliant. It is a white, chalk-like substauce, composed chiefly of silica, which, upon examination by a microscope, would probahly sbow it to he an agglomeration of the armoured shells of extinct diatoms, deposited in past ages, like coral.

Statuettes of porcelain and imitation bronze, imported, may he seen in considerahle variety and of great beauty, in tbe show cases of R. A. Swain & Co.

Original work in sculpture is exhibited in the art gallery by Arthur Lemorz, of Oaklaud; a female bead, which seems to be modeled after life, entitled "Isbael." It is a work of merit if original.

Stretch's relief map of tbe Virginia City country, on a scale of four miles to the inch, is interesting to those who are acquainted witb the localities represented, and evinces superior qualifications and commendatory enterprise in the pursuit of bis special branch of mining engiueering.

P. Mezzara makes a fino aud varied exbibition in sculpture, viz., a sleepiug child and dog modeled after life, of plaster; a well executed statuette of George B. Baker, tbe artist, wbo lost his right hand in the war, but not the powers which taught that member to paint, also of plaster; and a large number of cameo portraits of artistic quality.

GOLD AT LARAMIE.—Considerahle excitement exists at Laramie over the new gold discoveries, about 40 miles west of that place, which are said to be richer than any previous discoveries in that section of country.

CONTINENTAL Life Insurance Company, 302 Montgomery street, corner of Pine.

New Patents Issued to Pacific Coast Inventors.

Specially reported by the U. S. Patent Office, Washington, D. C., to NEWEY & Co., American and Foreign Patent Solicitors, and Publishers of the MINING AND SCIENTIFIC PRESS.

ISSUED FOR THE WEEK ENDING AUG. 11, 1868.

80,838.—IMPROVEMENT IN GANG-PLOW.—Andrew Smith and William P. Watson, of Portland, Oregon:

1. I claim the combination of the rod K, plate J, through wbicb the rod K screws, and wbich is attached to the hinge-joint I, hinge-plate I, plow-heams F, F, and standards and plows G, H, substantially as described.

2. The combination of tbe binged beams F, F, cord *c*, rollers M and N, ratchet *m*, pawl *p*, and foot lever *r*, substantially as described.

3. Attaching the rear end of the tongue to the axle by means of a clevis *t*, and a series of boles arranged as described, by which the draught can be changed, substantially as above set forth.

80,856.—IMPROVEMENT IN STREET PAVEMENTS.—Philip Caduc, of San Francisco, Cal., and W. H. De Velin, of Sacramento, Cal.:

1. I claim the application to a cobhlstone pavement, or walk, of the herein described composition, substantially in tbe manner set forth.

2. The tapering or inclined side blocks, molded and formed from the composition herein described, in the manner set forth.

3. A pavement or walk made of composition blocks, molded and formed as set forth, and united or cemented together, after being laid or placed in position, in the manner specified.

80,924.—IMPROVED BELT BUCKLE.—Wm. Cummings, of Sacramento, Cal.:

1. I claim the points provided with shoulders or rings near the end.

2. Tbo lever, so arranged as to press said points through the helt and against the plate, substantially as set forth and described.

80,928.—IMPROVEMENT IN LATHE CHUCK.—J. S. Detrick, of San Francisco, Cal.:

I claim the hack plate D, constructed as described, in combination with the sliding chuck and adjusting screw C, all eubstantially as set forth.

81,024.—IMPROVEMENT IN VALVES FOR WATER CLOSETS.—W. Smith, of San Francisco, Cal.:

1. I claim tbe tube D, applied to the face of a self-suspending water closet valve, with water-way at its base, substantiellyas shown and described, for the purposes specified.

2. In combination with the tuhe D, the spindle E, with the disk and packing *h*, and the packing L, compressed by the spring R, substantially as shown, and for the purposes set forth.

NATIONAL NOTIONS.—Every nation bas its peculiar notion on some eubject. For instance, the Chinese bave a notion that a man without a tail to bis head, is more deserving of deatb than a tailless toad. The English have a notion tbat roast beef and plum pudding are tolerably good eating; the Scotcb notion is oatmeal and scratcbing posts; the Irish, whisky and figbting; the Dutch, eour kraut and lager beer; the French, frogs and fricacees—and so on till you come to the Yankees, wbose notions are expanding everywbere, as they embrace liberty for all men, love for all young women, rocking-chairs for all the old ones, and habies for all who want them. Sewing machines, reaping machines, railroads, telegraphs, and steamers, are Yankee notions. Tbe many useful things at the Fair are a fair specimen of the California Yankee notions.

SCHOOL-ROOM FURNITURE.—Not a wbit bebind tbe advancement tbat has been made in the construction of school-houses and tbeir internal arrangements, bave been the improvements in scbool-room furniture as indicated by tbe exhibition of Messrs. Wigmore & Palmer, before the Mechanics' Fair, the display of which is worthy the attention of all classes. Few of us who have borne tbe burdeu of the day on hard, rude oaken seats in the primitive New Eugland scbool-house, that will uot be stirred with lively reminiscences of the old box stove, the desks, all of the older pupils having the wall, with the scbolar's back to the teacher, and the dove-tailed seats for the smaller ones nearer to tbe "master" and tbe fire.

A New and Important Invention.

We always take pleasure in speaking at length of a truly valuable invention, especially wben it is original in California. In examining the many important macbines on exhibition at tbe Mechanics' Fair, we are impelled by a sense of duty to notice in detail a simple but valuable labor-saving machine whicb is there exhibited. Goff's Patent Portable Cross-Head Wrist Pin and Crank Pin Latbe, was patented by Theodore A. Goff, and entered by Messrs. T. A. Goff and R. B. Bishop, both master mechanics of our State. It is a small portable macbine, to be applied to unevenly worn cross-bead wrist pins and crank pins, in engines, aboard of steamers, locomotives, or other machines which cannot be taken to the machine shop. The work is now necessarily done by filing, and a number of hours or days are lost in getting out the part requiring repair. Witb this machine it is easy to make a perfectly round and true pin or steamsbip shaft on the spot. The great advantage is, that the pin or shaft heing true, there will be very little wear to the hox, and the entire machinery will run so much bstter and longer. The one on exhibition is particularly adapted for turning off cross-head wrist pins on locomotive engines. A description of this machine, condensed from the specifications, may serve to interest the capitalist, as well es the mechanic.

The invention consists in the employment of a hoop, or ring, put around the work to be turned off, by being made into sections and revolved about it in a grooved case for the purpose of carrying the cutting tools. The cese is also in two parts, and is supported by, and elides back and forth laterally upon, the guide-rods carried by the feed screws in the usual manner. We will here remark that the proper frame for any kind of work will naturally suggest itself to a machinist who will examine this invention.

The operetion of the machine is as follows: Place the cutter-ring at one end of the pin to be turned, then adjust the cutter nearest the other end of the pin for a chip and the rachet for feeding in the proper direction; then turn the crank until ths ring crosses the face of the pin; then adjust the other cutter for a chip; change the feed and turn the crank as hefore, and so on back and forth until the pin is turned to the eize desired.

This machine is no improvement on any other, but an entirely new one, no machine ever having been invented to do the kind of work for which this is intended. The machine now on exhibition has been in use for the past eigbt months upon the San Francisco and San José Railroad, and has given entire satisfaction. As proof of whet we state, we append a certificate of an engineer on the road:

Tbis is to certifiy, that a box has been running in a crosshead of the locomotive "San Mateo" for the past seven month. The locomotive ran over 20,000 miles during that time, and the box was not removed for repairs. The pin on wbicb this box rnn was turned off by one of the Goff'e Patent Portable Wrist Pin Lathes.

SAMUEL SAWYER,
Engineer on the San Francisco and San José Railroad.

NEW MINES NEAR THE RAILROAD.—Rich gold and eilver lodes have been discovered in tbe Pyramid Lake country, Nevada, within six miles of the Central Pacific Railroad. The Imperial Consolidated Mining Company, on the morning of August 11th, despatched a company of workmen to their mine in the new Truckee District, ahout six miles from the Pacific Railroad, at the Hot Springs, 65 miles east of Virginia City, to commence taking out some of thsir rich argentiferous ore, preparatory to having it transported over the railroad to Reno. The same company has purchased tbe fine residence of the widow Plato, on the east side of Main street, Gold Hill, Nevada, between the old and new shafts, at a cost of $3,500, and will fit it up in handsome styls for an office.

THE BEST IN THE WORLD.—Gcvernor Haight has received a gold medal from the managers of tbe World's Fair at Paris, as a proof that California exhibited the best wheat there. Cock-a-doodle-doo! what State wouldn't crow over sucb an honor?

A BRICK chimney, one hundred feet high, in Worcester, Mass., has been moved four hundred feet without stays or tops.

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board
San Francisco, August 29, 1868.

City Stocks.

The transactions in other than mining stocks during the past week have been quite limited, prices for the most part being well maintained. Spring Valley Water Co. stock sold to a limited extent at $65 25 per share. State Telegraph Co. stock has been sold at $27 50 per share.

At the annual meeting of the North Beach and Mission Railroad Company, for election of Directors, on Monday, the 24th inst., the following named gentlemen were elected for the ensuing year: Henry A. Lyons, John S. Hager, Alpheus Bull, E. F. Northam, Michael Reese, Jerome Lincoln, Michael Skelly, and James T. Boyd. At the close Spring Valley Water was sold at $66. The Pacific Bank will pay its usual dividend on the first of September.

Mining Share Market.

The mining share market exhibited some animation since last Saturday, and early in the week nearly all stocks were in better request at enhanced rates. A slight rccession was apparent immediately after this healthy advance, nevertheless the market has received moro huoyaney and greater inclination is shown hy outsiders to enter the stock arena and contend for the spoils. Increased confidence is also exhibited as to fature developments in the lower levels of the various claims, while not a few belicve that prices will soou he considerably advanced over presont rates. As soon as the least rcliable intimation reaches this market that ore has been found in well-defiued bodies in the present deep workings of the various companies, stocks will receive an nnusual impetus, and the advauce will be proportionately great. At the close the market exhibited marked improvemeut.

The qnarterly assessment roll of the proceede of the mines of the different couuties of the State of Nevada, for the quarter ending March 31, 1868, contains the following figures:

County.	Ore Extracted.—Tons.	Av. Value per Ton.	Total Value.
Storey	44,017	$30 42	$1,338,873 23
Storey (ore sold)	8,238	.....	9,738 16
Lander	2,003	174 81	350,211 13
Nye	1,903	122 43	233,019 34
Esmeralda	836	42 09	35,206 46
Humboldt	186	59 85	11,102 94
Totals	57,263	.....	$1,978,151 26

Savage—rose from $112 to $118, declined to $114, and closed at $114 75. Up to the 22d for the past four weeke this company sent 4,000 tons of ore to the mills, and the yield of bullion to date for the preseut month has been $123,500. During the week endiug August 22d 1,086 tons of ore were extracted, ehowing an approximate value of $37 21 per ton. Thie amonnt wae taken from the followiug localities of the mine:

Third Station, north mine	30 tons.
Fourth Station, north mine	68 "
Fourth Station, south mine	826 "
Fifth Station, north mine	26 "
Fifth Station, south mine	136 "

The previoue week the yield amounted to 1,210 tons. Going north from the fourth station on the 50 level, toward the "five points," an improvement in quantity and quality is noticeable. In the south mine, same level, the main hreasts look very well. The north mine, on the fifth level, ehowe uo change, and the main hreasts of the south mine have not been as good as usual. Work ou the sixth station continuee to he impeded by water, and most of the workmen on this level are employed in repairing the drifts. In the eouth drift they have not yet found euough ore to pay for saviug.

Crown Point—has been in good demand at the late advance, selling at $89.50@91, receding to $88, and closing at $87 75. The August receipts of bullion so far foot up $60,167. The stopes hetween the 700 and 800 levels show no chauge from previous reports, and the prospects of the 900 level are exceedingly flattering, the drift being in 184 feet, with ahout 25 feet to run hefore reaching the ledge near the east wall. The drift ie now ncarly under the winze from the 800 level, the latter being down 100 feet. They hoiet ahont 100 tons of ore daily, and the average yield for the month will he $38 or $40 per ton. A small opening hae heen made tlrongh east drift of the 900 level with the winze, giving a good current of air. It will take eeveral days to open drift to wiuze.

Kentuck—wae in the market at $440@425, closing at $432 50. Up to the 24th the receipts of bullion for the present month amounted to $89,549, against $60,186 same time in July, and $41,137 in June. The receipts for the present month will average over $50 to the ton.

Gould & Curry—sold at $92@106, and closed at $107. In the Bonner shaft, at a depth of 1,043¼ feet, they found some quartz on the 22d which had a very promising appearnuce. Later advices are still more encouraging, they hav ing found larger quantities of quartz, and better looking. Similar looking quartz was obtained from the Hale & Norcross at a depth of 1,030 feet.

Impebial—advanced from $117 50 to $128, declined to $118 50, and closed yesterday at $120. In raising from 700 level up they found the pay ore to he eight feet wide, and is hest on the west wall. On 600 and 700 levels there is no change, both levels continuing to produce average quality of ore. In raising from 900 level there is no change, and they make about two feet per day. The winze from 700 level of Alta shaft has run out of pay ore, having left the ore under the foot wall of the iucline. Ou the 26th inst. $10,952 in hullion was added hy shipment to the rceeipts of August.

Hale & Norcross—was quite active, rising from $85 to $90, then selling at $84, and at the close realizing $90. Work is progressing well in this mine, without any favorable change at present. They are running in a north drift in the west portion of the vein, and have heen in quartz all the way. If there is any ore it is helieved to lie further to the east, in the north drift. Two strata of quartz, running close together, are reported to exist in the north portion of the mine. In the south drift they are keeping close to the east wall, but have no ore as yet that amounts to anything, and they will therefore cross-cut to the west in this drift. On the 28th the quartz had somewhat improved in the south drift, with some streaks of ore, bnt uo body yet.

Chollar-Potosi—sold to a larger extent than usual, advancing from $157 50 to $190, then selling at $174@191, and closing at $189. During the week ending August 21st extracted 1,044 tons of ore. This ore comes from the Blue Wing stope, and the quautity and quality is said to be increasing in this portion of the mine, the pay streak as now opened heing 55 feet wide hy 105 long. From the eleventh floor they have run a proepecting drift 87 feet north, and found a promising streak coming in at the southeaet corner, and from the twelfth floor they drifted 66 feet eaet through vein matter but no pay ore. On the thirteenth floor they drifted 48 feet southwest, aud found considerable millable ore. Work at 1,100 level continues in hard rock. On the 26th inst. sent forward $13,879 in bullion.

Overman—came into the market quite freely at a marked decline, having advanced to $115, theu dropped to $74, and closed at $83. It is reported that the developments on the 500 level arc of an encouraging nature, and they inteud to extend the drift to the north line. The breasts in the 300 level, south, look well, and work continues uninterruptedly. $3,646 was sent forward ou the 24th inst.

Amador—wae in the market at $245@250, closing yesterday at $240. On the 26th inst., the Eureka and Badger shafts were connected by drift, giving thorough ventilation to hoth mines. The developmente of the Badger vein are of a very satisfactory nature.

Golden Rule, (Cal.)—paid a dividend of fifty cente per ehare on the 26th inst.....Julia—levied an assessment of $1 50 per share on the 24th instant.....Bullion—levied an assesement of $10 per share on the 19th inst. This ie the thirty-first assessment levied hy this company, and have never dishursed a dividend.

The sales in the Board during the past week have been as follows: Open sessions, $652,415; regular sessions, $2,038,120—total, $2,690,535.

Blanks, Blank Mining Books,

Constitution and By-Laws

—FOR—

Mining and Prospecting Companies

Elegantly printed, with care and dispatch, at the office of the

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MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every Issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

Name, Location, Amount, and Date of Assessment.	Day Delinquent.	Day of Sale.
Amador Co., dividend, $6 per share	Payable Aug. 29	
Belcher, Storey co., Nev	Special Meeting Oct. 1	
Bacon, Storey co., Nev., div	Payable June 19	
Belcher, Storey co, Nev., July 13, $25	Aug. 13	Sept 14
Chalk Mt. B. G., Nevada co., Aug. 17, $1	Sept. 23	Oct. 12*
Chiconena, Mexico, July 9, $5	Aug. 13	Aug. 31*
Crown Point, dividend, $7.50	Payable July 11	
Daney, Lyon co. Nev., July 27, $2	Sept. 1	Sept. 20
Empire M. & M., Nev., dividend $6	Payable May 16	
Folsem St. & F. Pt R. R. Co., July 30, $5	Aug. 29	Sept. 14*
Gold Hill Tun., Storey co, Nev July 18, $2	Sale Sept 9*	
Gold Hill Q M & M—dividend, $7 50	Payable July 13	
Golden Rule, Tuolumne co, div. 50c ₰ sh	Payable July 23*	
Hope Gravel, Nevada co, July 30, $1	Sept. 10	Oct. 5*
Hale & Norcross, Storey co., Nev., July 22, $10	Sale Sept 14	
I. X. L., Alpine co., Aug. 23, $1,60	Sept. 19	Oct. 7*
I X. L., Alpine co	Annual Meeting Sept. 10*	
Imperial, Storey co, Nev., div	Payable June 18	
Kentuck, div., $30 per share	Payable Aug. 10	
Kearsarge, Inyo co., Aug. 4, $	Sept. 4	Sept. 21*
Lady Bryan, Storey co., July 25, $1	Payable Immediately.	
La Victoire, Mariposa co., July 15, 50c	Aug. 18	Sept. 4
Morning Star, Alpine co., July 15, $2 50	Aug 17	Sept. 7
North Star, dividend, $5	Payable Aug. 10	
Pacific Unassessable, div	Payable June 18	
Rattlesnake, Yuba co., Aug. 7, $2	Sept. 10	Sept. 28*
Rose Linda, Alpine co., July 25, $50	Sept. 1	Sept. 16
Rising Star, Idaho Ter., June 23, $50	Aug. 8	Sept 9
Rivet Process	Stockholders' Meeting Sept. 3	
Silver Sprout, Inyo co	Special Meeting. Aug. 31*	
Silver Sprout, Inyo co, Aug. 4, $30	Sept. 4	Sept. 21*
Santiago, Silver City, dividend	Payable July 9	
Savage, Virginia, Nev., dividend, $15	Payable July 10	
Sand Spring salt, dividend $1	Payable June 5	
Virginia & G. H. Water Co.	Dividend, payable May 15	

*Those marked with an asterisk (*) are advertised in this ournal.

Latest Stock Prices Bid and Asked.

S. F. Stock and Exchange Board.

Friday Evening, Aug 28, 1868.

Miscellaneous Stocks.	Bid.	Asked.
United States Bonds, 5 20s	$ 77	78
Legal Tender Notes	70	70¼
California State Bonds, 7s, 1857	95	65
San Francisco Bonds, 10s, 1851	102	103
San Francisco City Bonds, 6s, 1855	—	—
San Francisco City and County Bonds, 6s, 1858	85	90
San Francisco City and Co. Sch'l B'ds, 7s, 1866	90	—
San Francisco City and Co. Bonds, 7s, 1862	85	—
San Francisco City and Co. Bonds, 7s, 1864	84	85
San Francisco City and Co. Bonds, 7s, 1865	84	85
San Francisco City and Co. Judg. Bds. 7s, 1863	84	85¼
San Francisco City and Co. Judg. Bds, 7s, 1864	84½	—
Sacramento City Bonds	23	25
Sacramento County Bonds, 6s	70	—
Marysville Bonds, 10s	75	85
Stockton City Bonds	70	85
Yuba County Bonds, 10s	75	80
Santa Clara County Bonds, 7s	72	—
Butte County Bonds, 10s, 1860	70	76
San Mateo County Bonds, 7s	75	—
California Steam Navigation Co	68	69
Spring Valley Water Co	66	67
State Telegraph Co	25	29
Gas Companies.		
San Francisco Gas Co	77	78
Sacramento Gas Co	—	75
Railroads.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	80	—
Central Railroad	55	68
North Beach and Mission Railroad	—	75
Front Street, Mission and Ocean Railroad	11	12
Banking Institutions.		
California, Loan and Savings Society	—	—
Pacific Bank	97½	100
The Bank of California	157	158
Insurance Companies.		
Firemans' Fund Insurance Co	85	86
Pacific Insurance Co	118	—
San Francisco Insurance Co	—	105
Merchants' Mutual Marine Insurance Co	470	483
California Insurance Co	1300	1400
Union Insurance Co	89	90
California Home Insurance Co	—	—
Home Mutual Insurance Co	19¼	20
Occidental Insurance Co	79	80
National Insurance Co	—	—
Builders' Insurance Co	90	—
Mining Stocks—Washoe District.		
Alpha	63	53
Baltimore American	—	—
Belcher	162½	165
Bullion, G. H	22	23
Crown Point	58	59
Confidence	30	33
Chollar-Potosi	189	190
Daney	—	10
Exchequer	19	20
Empire Mill and Mining Co	115	125
Gould & Curry	106	107
Gold Hill Quartz	62¾	70
Hale & Norcross	90	92
Imperial	119	120
Kentuck	437½	425
Lady Bryan	20	21
Ophir	20	22
Overman	80	85
Savage	115	116
Sierra Nevada	31½	32
Yellow Jacket	1275	1280
Golden Rule, California	10	—

San Francisco Market Rates.

Wholesale Prices.

Friday, Aug. 28 1868.

Flour, Extra, ₱ bbl	$5 75	@	$6 50
Do. Superfine	5 25	@	5 50
Corn Meal, ₱ 100 lbs	3 25	@	3 50
Wheat, ₱ 100 lbs	1 75	@	1 95
Oats, ₱ 100 lbs	2 35	@	2 50
Barley, ₱ 100 lbs	2 15	@	3 00
Beans, ₱ 100 lbs	3 00	@	8 00
Potatoes, ₱ 100 lbs	85	@	1 00
Hay, ₱ ton	10 00	@	15 00
Live Oak Wood, ₱ cord	9 00	@	10 00
Beef, extra, dressed, ₱ lb	8	@	10
Sheep, on foot	3 00	@	3 25
Hogs, on foot, ₱ lb	4½	@	6
Hogs, dressed, ₱ lb	8	@	9
Grocaries, etc.			
Sugar, crushed, ₱ lb	14¾	@	15
Do. China	10	@	11½
Coffee, Costa Rica, ₱ lb	15½	@	16
Do. Rio	—	@	17
Tea, Japan, ₱ lb	75	@	90
Do Greca	60	@	1 25
Hawaiian Rice, ₱ lb	—	@	8
China Rice, ₱ lb	6	@	6¾
Coal Oil, ₱ gallon	35	@	40
Candles, ₱ lb	15	@	17½
Ranch Butter, ₱ lb	40	@	50
Isthmus Butter, ₱ lb	30	@	35
Cheese, California, ₱ lb	14	@	18
Eggs, ₱ dozen	58	@	60
Lard, ₱ lb	13	@	15
Ham and Bacon, ₱ lb	12	@	1
Shoulders, ₱ lb	6	@	8

Retail Prices.

Butter, California, fresh, ₱ lb	60	@	75
do. pickled, ₱ lb	30	@	40
do. Oregon, ₱ lb	15	@	25
do. New York, ₱ lb	35	@	40
Cheese, ₱ lb	20	@	25
Honey, ₱ lb	25	@	30
Eggs, ₱ dozen	60	@	75
Lard, ₱ lb	15	@	17
Hams and Bacon, ₱ lb	20	@	25
Cranberries, ₱ gallon	85	@	1 00
Potatoes, ₱ lb	2	@	3
Potatoes, Sweet, ₱ lb	3	@	5
Tomatoes, ₱ lb	3	@	5
Onions, ₱ lb	3	@	5
Apples, No. 1, ₱ lb	4	@	5
Pears, Table, ₱ lb	5	@	7
Plums, dried, ₱ lb	11	@	13
Peaches, dried, ₱ lb	—	@	—
Oranges, ₱ dozen	75	@	1 00
Lemons, ₱ dozen	1 00	@	1 50
Chickens, apiece	50	@	75
Turkeys, ₱ lb	20	@	25
Soap, Pale and C. O	7	@	12
Soap, Castile, ₱ lb	15	@	16

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

Friday, Aug. 28, 1868.

Iron.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Rar 1@1¼c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1¾@12½c ₱ lb; Plate, 1½c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2¾ ₱ lb.

Scotch and English Pig Iron ₱ ton	$35 00	@	$— —
White Pig ₱ ton	35 00	@	— —
Refined Bar, bad assortment ₱ lb	— 03	@	— —
Refined Bar, good assortment, ₱ lb	— 04	@	— —
Boiler, No. 1 to 4	— 04¾	@	— —
Plate, No. 5 to 9	— —	@	— 04¾
Sheet, No. 10 to 13	— 04¾	@	— 5
Sheet, No. 14 to 20	— 05	@	— 5¾
Sheet, No. 24 to 27	— 05	@	— 6¼
Copper.—Duty: Sheathing, 3¾c ₱ lb; Pig and Bar, 2½c ₱ lb			
Sheathing, ₱ lb	— 28	@	— 26
Sheathing, Yellow	— —	@	— 22
Sheathing, Old Yellow	— 11	@	— —
Bolts	— 21	@	— 22
Composition Nails	— 21	@	— 22
Tin Plates.—Duty: 25 ₱ cent. ad valorem.			
Plates, Charcoal, IX, ₱ box	12 50	@	13 00
Plates, I C Charcoal	11 00	@	11 50
Roofing Plates	10 50	@	11 00
Banca Tin, Slabs, ₱ lb	— —	@	— 30
Steel.—English Cast Steel, ₱ lb	— —	@	— 15
Quicksilver.—₱ lb	— 55	@	— 60
Lead.—Pig, ₱ lb	— 7¾	@	— 8
Sheet	— 10	@	— —
Pipe	— 11	@	— —
Bar	— 9	@	— 9¼
Zinc—Sheets, ₱ lb	— —	@	— 9½
Borax.—California, ₱ lb	— 20	@	— 23

Removal.

THE

Mining and Scientific Press

(Patent Agency, Newspaper and Job Printing Office)

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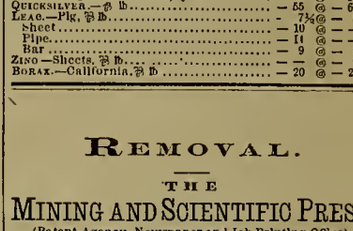
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Mining and Scientific Press

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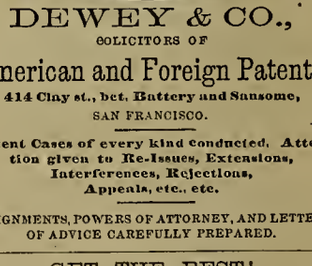
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JOHN C. HODGE & CO, Agents,

329 and 331 Sansome street, S. W. cor. Sacramento, San Francisco.

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County.

Markleeville *Miner*, Aug. 15th: Yesterday the workmen in the Globe tunnel struck through a hard streak into softer working and sulphuret bearing rock. Ore from the small lode cut a few weeks since assays $7 per ton.

The rains of last winter brought to viewa vast amount of black sulphurets on the waste dump of the Tarshish.

The Pittsburg mill, it is expected, will commence running on L.X.L. ore about the first of next month.

Mr. Geo. C. Potter, for several years past City and County Surveyor of San Francisco, has been placed in charge of the Tarshish works.

Amador County.

Jackson *Ledger*, Aug. 22d: The smelting works at the Newton copper mine are being rapidly pushed to completion.

Dick Palmer is hard at work prospecting for auriferous deposits on the foot-hill range.

Within two weeks the Kennedy quartz mill will be running. Everything is being done to push it forward as rapidly as possible. The machinery and works are of the best and latest style.

Robert Ludgate and Capt. Jack Miller, of Ione City, discovered and located a coal mine, Wednesday. It is about two miles southeast of Ione City, and the croppings are said to equal the best coal taken from the old mine.

Mono County.

A dispatch to the *Times* of this city, dated Aurora, August 25th, gives the following: The largest amount of bullion ever brought to this town for assay, arrived here to-day from Benton, Blind Springs district, Mono County, Cal., and was deposited at the banking house of F. Garesche. It was smelted in Williams & Wekland's furnace, out of ore from the Diana mine, located in that district, and owned by these gentlemen. There are 137 bars, weighing 8,843 lbs. As it has not yet been assayed the value is unknown.

Nevada County.

Transcript, Aug. 19th: J. Hamilton & Co. have located a claim on Greenhorn Creek containing 600 feet,—fronting on Cascade Ravine and north of the Mountaineer claim. It is known as the Pennsylvania Co.

The Annie Quartz Co. have located 1,400 ft. on a ledge situated 1¼ miles from Eureka and about 300 feet below Black & Young's mill.

Aug, 21st: From Bill Davidson who has just returned from Eureka, we learn that the Birchville mill is crushing a lot of first rate float quartz.

Sweet & McElvy have let a contract for taking out 200 tons of rock.

The frame work of Palmer & Everingham's mill at South Fork is nearly completed.

We understand that the mines at Remington Hill, Little York township, are paying first rate this season. Two compauies are at work taking out considerable dust.

A party of Grass Valleyans have located 1,600 ft. on the Grass Valley Slide Ravine. They have called it the Seymour ledge, which ie sufficient to make it peter.

Aug. 25th: W. A. Martin & Co. have located 2,000 ft. on the extension of the Camanche quartz ledge at Diamond Creek, Washington township.

Gazette, Aug. 24th: For three months past the Eagle Gravel Co. have heen running a tunnel on Frink's ranch, jnst above the Gold Flat ditch. The tunnel is now in 180 ft., and within 50 ft. of the old river channel about 30 feet below the bottom of the shaft, low enough for sluicing or hydraulic purposes. A one-fourth interest in the claim was sold last week for $600 cash. The gravel in the hottom of the shaft prospects splendidly.

Grass Valley *National*, Aug. 22d: The machiuery and works of the Ione mill which were recently purchased by the proprietors of the Coe mine will he put up and ready for work within three weeks.

The Empire mill cleaned up the sum of $40,000 last week, after a run of 22 days.

Grass Valley *Union*, Aug. 20th: One of the most remarkable mines in the State is that of Abergast & Nichols, about ouc mile south from Rough & Ready in this county. The ledge is about six feet in thickuess, and is encased in slate, the quartz beiug decomposed. The owners when they want money, take a pan and go after the gold, and often pan out $1,000 in two hours. They are uow about 70 ft. down on the ledge and it shows wonderfully rich, all the way down. They refuse to sell the mine or any portion of it, for any amount of money which can be offered. Their claim is 6,000 feet in extent. They have no machinery at the ledge, and do not seem to care to crush their rock.

Aug. 21st: Mining operations at Graniteville are very active, and most of the companies are making money.

Aug. 24th: The mines at Eureka are looking remarkably well. The Jim mine, or as it is now called, the Mutual Gold Mining Co's 5-stamp mill is yielding a very good quality of rock. The last clean up, after a run of 33 days, gave 150 ozs. The gold is of excellent quality, being worth $17.50 per ounce. The Valentine mill, which has 10 stamps, is doing a good business and crushing a fine quality of rock.

Excelsior.—Virginia (Nev.) *Enterprise*, Aug. 23d: We learn from Mr. Frederick, who returued from Meadow Lake evening before last, that the Mohawk & Montreal Co. have struck a deposit of exceedingly rich ore in their mine. One hlast threw out 10 tons of rock, in almost every piece of which free gold was to he seen. The ore contains so much free metal that it has been thought hest hy the Superintendent not to send it down the hill to the mill hy the chutes, as a great amount of the gold on the outside of the pieces of ore would he ground off and lost. The ors is therefore being packed down to the mill upon mules. Two or three Mexicans and eight mules are now employed in this husiness. We have bsen shown specimens of the ore that are full of free gold in coarse particles. The Mexicans engaged in packing the ore have offered the company $100 per ton for it as it comes from the mine, hut having a good mill of their own upon the ground almost completed, they prefer to work it themselves. Their mill contains 10 stamps, and is in every respect the most complete in the country. It will start up this week, and Mr. Collins, President of the company, expects shortly to bring in his first gold brick. The company have laid in a large supply of wood, all of which is roofed over, as well as the incline track leading from the mine to the mill, the main shaft and everything about the works, so that next winter both mining and milling can be conducted without going from under shelter for anything. The main tunnel now connects with the shafts sunk upon the croppings and hy means of drifts and chutes the company are in a position to extract almost any amount of ore and land it in their mill at a trifling expcnse, there being no hauling to be done.

Placer County.

Dutch Flat *Enquirer*, Aug. 22d: A Gold Run correspondent writes: I do not think that at any time since the mining season commenced, there has heen more doing in that branch than at the present time.

Geo. Slocumb & Co. are sinking their shaft rapidly, and we expect soon to hear that they have struck a big thing in the blue gravel; if they do, the bottom ground around this place will last a number of years. The claims of Messrs. Huyck & Co., Carr & Co., Brogan & Co., cleaned up last week, and as far as we can learn fully realized the expectations of their owners.

Plumas County.

Quincy *National*, Aug. 15th: Hallsted's mill, in Granite Basin, has been running about a week crushing rock from the Jennie ledge. The mill crushes about 14 tons per day, and will clean up shortly. From the prospects they think they have some good paying quartz.

ARIZONA.

Prescott *Miner*, August 1st: The "Conquest" mine, about five miles northwest of La Paz, Yuma County, is one of the richest and hest developed mines in Arizona. Its owner, Manuel Ravena, is well satisfied of its ricbness and permanency. To give an idea of the amount of labor that has been performed on this mine during the last four years, it is necessary to state the fact that eighteen shafts of from ten to seventy feet in depth, each, have heen sunk upon the lode, at different points inside the length of the claim, 1,200 feet, and in all of those shafts the lode has been struck, thus proving it to be a true vein. The width of the vein averages from 3 to 21 feet; the rock is decomposed, and is very rich in free, fine gold. A mill will soon be erected to work the ore from this ledge, and we learn that Mr. Ravena has arranged his business so as to be able to devote his whole attention to working the "Conquest."

We have no news from the Williams' Fork copper mines, further than that they are being worked.

A party of nine men are now prospectiug the range of mountains hack of McMullen's station, on the Prescott and La Paz wagon road.

Parties are negotiating with Little & Taylor for their valuahls mining property on Lynx Creek. Should they make the purchase, work will be commenced upon it immediately.

Mr. Basham has leased from S. Z. Pierce his placer claim and ditch, below the Excelsior claims, and is now at work.

Groom & Cole are sinking a shaft on the Platanka lode.

Work is going on at the Chase. Good rock is being taken out of it.

Nothing is being done on the Chloride, on account of the great quantity of water in the shaft.

From Lynx Creek the news is very favorable.

ALASKA.

Helena (Montana) *Post*, Aug. 14th, says: Tom Fairweather has just rcturned from an extended prospecting trip in Alaska. He prospected through the British Possessions until he struck a tributary of McKenzie River, where he worked placer diggings, but realized only $4 50 per day the hand. The climate is mild and the winters not as severe as in Montana. His 15 months experience in the northern country induces him to return there next spring.

BRITISH COLUMBIA.

A telegram to the *Times* of this city is as follows:

Great excitement has been created hy the discovery of a large prospect ou Peterson Creek, about 18 miles west of Parkervills. It was discovered by a man named Kennedy, and from the quantity of gold already taksn out it bids fair to rival Williams' Creek in richness.

The news from Williams' Crcek is rather unfavorable, in consequence of the scarcity of water.

On Grouse Creek the flume company continues paying fairly.

COLORADO.

Central City *Herald*, Aug. 5th: William Monday & Co. are working the patch diggings on Quartz Hill with good success. Mr. Rohert Frazier and others have discovered a new silver lode on the head of Ralston Creek. At a depth of 20 ft., the ore assays $30 silver per ton. They are developing it, and consider it very valuable, as the ore can be raised with very little or no expense....Hope, Leighton & Co. have, at a depth of 40 ft., uncoverod a 3-foot vein of pay ore. Yesterday they let a contract for the driving of two levels, each 40 foot in length. They are running their ore in the Shirer mill. The last clean-up yielded at the rate of $240 gold per cord....Camphell & Hardin are running their claim on Illinois Bar. As yct they have not been able to reach bedrock....Rist & Co., who are working out the ground on Russell, cleaned up and returned last Friday, 17½ ounces, gold, the yield of a four days' run, five men shoveling up and two ground sluicing. The late flood did not damage their works....Capt. Dean & Co. are still mining on Grass Valley Bar, South Clear Creek, with very profitable results....Dougherty & Co. are working on the same hill, west of Dean & Co. They too, are succeeding well.

A. H. Owens brought down with him this morning 70 ounces of gold, the product of the Pleasaut Valley Gulch mine, for the week ending August 1st.

The Barrett Mining Co. is supplying the California Reduction Works with ore from the Winnehago lode.

We understand that several new discoveries have heen made of gold-bearing quartz lodes, up Missouri Gulch.

Warren Hussey & Co. have purchascd, thus far this week, 463 ounces gold, the greater portion of which were purchased in small lots.

The Narragansett mine, on the Gregory lode, will soon resume its former life.

Wright & Co. have heen har mining on Clear Creek during the season, and have met with great success. With the exception of two days lost in consequence of high water, they have kept steadily at work, employing eight hands, and have taken out au average of $20 per day to the hand for the whole season. They have, during that time, made some very large runs, and occasionally have gone as high as $50 a day to the man, and some weeks they have cleaned up as high as $1,600, gold.

Warren Hussey & Co. have on exhibition at their hanking house, a nugget weighing 108 pennyweights, 12 grains, taken out of Russell Gulch, on last Tuesday, by R. L. White. Also one weighiug 40 pennyweights, 12 grains, taken from the Pleasant Valley Co's claims, by A. H. Owens. In addition to the nuggct of Mr. White's, mentioned above, this gentleman cleaned up, the same day, 29 ounces, gold, as the result of that day's run.

Central City *Register*, August 6th: The Lexington mill has been running husy this week on ore from various mines....Mr. Young has been ohtaining excellent results from the ore of the Mercer County lods. Richard White sold yesterday 30 ounces of gold bullion from his gulch mines on Russell's Gulch. He is doing well....Parties on Quartz Hill have discovered what appears to he the continuation of the Eagle lode, and are taking out pay dirt and quartz of extraordinary richness. Several dollars to the pan are sometimes obtained.

The new mill on the Winnebago is running constantly, night and day, and is working very smoothly, without a break or stop. It has 20 stamps, and is crushing a large amount of ore. It is so arranged as to run the water over and over again, when winter shall come and render it necessary.

Instead of damaging Richard White's mining operations in Pleasant Valley, the storm benefited him to the amount of $100 hy washing away sand which lay on the surface. He was ahle to secure this by seeing the storm approach, and making preparations for it.

IDAHO.

Helena (Montana) *Post*, August 14th: Mr. Warren Whitcher arrived in town yesterday from Pen d'Oreille Lake, aud reports that great excitement exists in the western portion of the Territory concerning the discovery of gold in the Coeur d'Alene Mountains. The road is crowded with miners from Beartown to the new diggings. He was informed that the mines paid from eight to ten dollars per day to the man, hut did not ascertain the precise location of the new discovery.

MONTANA.

Helena *Post*, Aug. 14th: Last Chance Gulch, even in portions which have been extensivly mined, are still far from being worked out. Claim No. 5 above discovery, yielding for the week ending on Saturday night last, 13 ounces of gold. The claim has already been partially worked out, and is now being thoroughly mined by drifting.

At Hershfield Bro's. may be seen the result of the last clean up of the Union Mill, from Whitlatch Union ledge. Eight days run, whith 22 stamps, yielded $6,316 96 gold, and $109 24 silver, assayed and emelted at Molitor Bros.

The mining operations at Ten Mile Cresk, recently spoken of by us, were commenced yesterday. In the immediate vicinity of the claim now heing opened, prospects of from seven to ten cents to the pan have heen obtained at a depth of 20 feet, and rich deposits of gold are thought to lis upon the bed rock. Claims have been and ars being staked up and down the gulch, and a company formed. Ground may he eithsr represented by actual labor or by the payment of an assessment of $5 per week for the purpose of prosecuting the work in the main shaft.

Wm. Nowlan, recently from Cable, hrings with him 366 ounces of splendid retort, the result of the last week's run on Cable rock with 20 stamps, in the Nowlan mill. He reports that the ledge from which the quartz was taken still looks fine, and is heing energetically worked.

A ditch 12 milee in length is in process of construction from Divide Creek to Rocker City, and will supply 1000 inches of water to the latter placc.

Prospects of 21¼ cents to the pan have been obtained in a little sag tributary to Dry Gulch and making junction with it at the foot of the Hangman's tree.

The Deer Lodge *Independent* gives ths following: The Thomas Mill at Cable is to commence crushing on custom qnartz.... New diggings in the Deer Lodge conntry are mysteriously hinted at....Uncle Ben's Gulch, discovered this eummer, 20 milss southwest of Deer Lodge City, is paying well. As high as $500 per day has heen taken out to the string of sluicea. One company has averagcd $20 per day to the man since it commenced running....It is thought that the miners have, during ths past three years, been at work on false hed rock at Silver Bow. Parties recently followed the example of Taylor & Thompson, in Last Chance gulch, and sunk a shaft to a depth of 25 feet below what has been considered as bed-rock. At that depth splendid pay gravel was struck. and it is thought that the Silver Bow will all he worked over again on the lower level....John McMahan & Co. keep two string of sluices cleaning up after their hydraulic at Highland, and take out about $1,000 per day. One week ago they obtaiued a nugget worth $240.

NEVADA.

Humboldt.

Winnemucca *Argent*, Aug. 20th: At no time in the history of Humboldt mining has there heen morc well-directed labor put upon mincs, and in no instance that we know of is it heing done for other than purposes of permanent development.

Gold Run is to have a quartz mill right at the mines. The Golconda Co. have made arrangements with G. W. Holt, to remove his mill to a small creek near the Golconda mine, and it will reduce ore from that mine.

The Pioneer mill is now undergoing repairs. There are now about 800 tons Manitowoc and Arizona tailings in the reservoir, that will be worked as soon as the pans are properly repaired, which will be in a few days. These tailings yield as much as ordinary second class ore, and will bear a second working. The new mill keeps running day and night. Only the stamps are run during the day, and crush nine tons, as much as can at present be worked in the pans. The two new pans and large settler will be in place this week, when the mill will be run at its full capacity—crushing 15 tons per day.

Reese River.

Austin *Reveille*, Aug. 15th: Since the 1st inst., there has been received at the Manhattan mill for reduction, 275 tons of ore, the assay value of which is $128,427. On these various lots of ores, which were produced in his district and in the district of White Pine, advances have been made to the amount of $97,759; and as the sum of $30,000 only has been shipped, there remain $67,759 invested in the ores now in the course of reduction at the mill.

Aug. 17: We were shown yesterday by Mr. Detrees, several specimens of exceedingly rich quartz from the Atlanta and Leonora ledges in the country. The Atlanta ore is at least from 80 to 90 per cent. silver and gold—the former predominating. The Leonora is full of leaf gold; a seam or streak runs through the ledge, which exceeds in richness anything of the kind we have ever seen. The ledges are well prospected and show a continuous increase in extent and richness.

On Saturday evening six bars of bullion, valued at $5,718.83, were brought into the city from the Knickerbocker mill, near Ione, and deposited in the bank of John A. Paxton & Co.

Aug. 18th: Four bars of bullion, valued at about $5,000, were shipped to-day through the house of John A. Paxton & Co. These bars were the production of ore from the district of White Pine.

Aug. 19th: A lot of ore from the Rough & Ready mine, Amador district, has just been reduced at the Manhattan mill, with the following result: Two tons of first class gave a yield by assay of the pulp of $290 per ton; and 5½ tons of second class yielded at the rate of $81 per ton. The ledge of the Rough & Ready is large, and will produce great quantities of the second class ore.

During a late visit to the Manhattan mill we saw in the melting room, bullion enough in the crude state and in bars to place a reasonable man in a comfortable position for life. So fine a quality of ore has been reduced at the mill lately, that its daily product of bullion amounts to between $6,000 and $7,000.

The Buel North Star Co. is producing the richest ore in quantity that has yet been extracted from Lander Hill. Of the large lot of 100 tons lately sent to the Manhattan mill for reduction, the assays of the pulp averaged at the rate of $482 per ton. Two tons, which were specially assorted from the first class ore, gave the enormous yield of $2,700 per ton. This is an indication of the pockets or chimneys of precious silver ores which lie beneath the surface of Lander Hill.

Aug. 21st: Yesterday there were received at the banking house of Paxton & Co., two bars of bullion from the Knickerbocker mill, near Ione, and two bars from the Combination Co., of Belmont.

We saw at the Manhattan mill a lot of ore from the district of Cortez which will yield largely of silver. It was produced from the Garrison ledge, and was noticeable from its large proportion of its silver bearing galena. The yield of the ore being reduced at present gave pulp assays ranging from $425 to $450 per ton.

Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Virginia *Enterprise*, Aug. 19th: The patent blower at the Hale & Norcross mine has been started. It works well. It is one of Root's patent No. 3, and was manufactured by Keep, Blake & Co., Globe Iron Works at Stockton, Cal. A similar one has also been started into operation at the Chollar-Potosi mine.

The body of ore encountered in sinking the upper part of the winze in the Imperial mine is said to increase in extent and improve in quality as it is followed down.

A vein of water has been struck in the lower level of the Alpha mine.

Aug. 20th: Judge Baldwin, Sam Stewart, Mr. Russell, and other gentlemen of this city and Gold Hill, are engaged in working a series of very rich leads in the Pyramid Lake country, about six miles from the Central Pacific Railroad. The leads are likely to prove immensely valuable. They have located several parallel leads, the largest of which—supposed to be the mother vein of the group—is 25 feet in width. Three lots of ore from these veins have been worked at the Mariposa mill in this city, and the lowest yield was $40 per ton, while the highest (a lot from the mother vein) was over $200. The ore yields about an equal value per ton of gold and silver, but silver will probably predominate when the water level is reached.

Aug. 21st: For some days past there has been a gradual settling down of the Chollar-Potosi mine, on South B street.

The Belcher Co. have just received one of Root's patent blowers, and will at once set it to pumping a supply of fresh air into their mine. All the leading companies on the Comstock range will soon be using three fans, or blowers.

During the past week E. Rubling & Co. melted into bars and assayed in this city and Gold Hill, 81,457 ounces of crude bullion.

The total amount of bullion shipped from this city and Gold Hill during the past week, was 9,736 lbs., worth $228,958.32.

The Pacific 40-stamp mill has been thoroughly overhauled, a new and powerful engine put in, and will probably resume operations to-day.

Pretty much all the mills in and about Gold Hill are now running steadily, plenty of rock being furnished by our mines.

A large amount of rich ore is coming out of the Kentuck at the present time.

The Yellow Jacket Co. are developing some excellent deposits of ore in their mine. Persons who have lately visited it say that it looks better than in many months.

Aug. 30th: By a private letter received in this city yesterday, we learn that some very rich veins of gold bearing quartz have been found in the neighborhood of the Mammoth lead, Nye County. The leads are much richer than any that have heretofore been found in that vicinity, the ores containing a large amount of free gold.

Steele's Proprietary Preparations.—These articles seem to have won especial favor from a class of regular customers, whose requirements are fully answered thereby, and who really save money by the purchase of articles which do all and always what is required of them. The price of Steele'e preparations of magnesia, cough lozenges, glycerine lotion, wine of pepsin, and perhaps a dozen others, are not much above the worthless nostrums that find a forced and brief sale by extravagant advertising. Steele & Co. are located at Keith & Co's old stand, on Montgomery street, between Clay and Commercial. Their prescriptions, made from fresh drugs of direct importation, cost no more than at any other place, and are filled by proficients of many years standing in this branch of the trade.

Aquatic Velocipede. — M. Thierry, a French architect, has invented a velocipede for water travel. It consists of two hollow pontoons of wood, water-tight, 12 feet long, and pointed at each end, fastened together by cross-bars. The seat is in the center, and about two feet high. The paddle-wheel, three feet in diameter, is in front, and is worked by treadles. The rudders—one at the stern of each pontoon—are moved by lines in the hands of the navigator. It is said to move with great rapidity.

The Late Eclipse.—Telegraphic dispatches from Calcutta inform us that the eclipse of the Sun, which took place on Tuesday of last week, occurred under most favorable auspices for observation; hence we may reasonably hope for results of great interest to the scientific world.

Great Novelty.—A sewing machine for six dollars may excite surprise. But why not for six dollars? It is nearly worth the price to look at the latest novelty, the Hancock machine, which may be seen in operation at the salesroom, 109 Montgomery street. Fuller & Co., agents.

To the Unemployed.—The Pacific Publishing Company are constantly in receipt of new publications and old standard works, by the sale of which, good, active canvassing agents can clear ten dollars per day. There is money in it, surely.

Communications.

In this Department we invite the free discussion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Formation of Quartz Veins.

Editors Press:—In the new work entitled "Natural Wealth of California," by Titus Fey Cronise, I find the following statement: "In one of the auriferous beds, in the vicinity of Volcano, Amador County, a distinctly marked quartz vein occurs in the gravel, showing how recently veins have been formed." In view of its bearing upon the age, origin, and mode of occurance of metalliferous deposits, I deem such a fact worthy of more than a mere passing notice. I have seen small quartz veins which were unquestionably deposited from solutions of silica. The crystals were built upon the walls of the cavity, and as they enlarged and approached each other, they were interlocked and filled the cavity full and solid, while in other parts of the fissure the crystals adhered to the walls, and only partially filled the original cavity. Was the quartz vein above referred to of this character? Other quartz veins that are metal-bearing show evidence of having been filled with plastic quartz formed beneath. Some of them were evidently found since the soil, in consequence of the decomposition and disintegration of the country rock, had attained to nearly or quite its present depth. The surface soil having been more yielding than the protrusion of nearly congealed quartz, some veins rapidly increase in width from a few inches beneath to many feet in thickness, at or near the surface. Was the vein spoken of by Mr. Cronise of this description or character? Was the deposit composed of quartz gravel, or was it made up in part of the disintegrated country rock? What is the bed rock upon which the deposit rests or rested? If the vein appears to have been protruded, did or does the quartz overlie or displace the gravel near the surface? In short, the vein should be studied in place, and such of its peculiarities as have a bearing upon its origin and age more accurately described. I am led to believe that there are other localities along what is now the base of the Sierra Nevada, where quartz veins intersect ancient auriferous gravel deposits, or the more ancient overlying detritus.

F. A. Herring.

Forbestown, Aug. 19th, 1868.

P. S.—I am much pleased with the Aug. 8th number of the Press. Prof. Rowlandson's and Dr. Lanszweert's papers indicate a proper spirit of inquiry. Dr. Lanszweert says: "Every one concurs in the belief that alluvial gold has been derived, at some time or other, from lodes." I for one must dissent from that proposition, and shall attempt, at some future time, to show that if quartz veins are protrusions of quartz, originally in a state of fusion, that fact also implies an eruptive era of metalliferous quartz—that there is no stopping short of such a conclusion.

F. A. H.

[Written for the Mining and Scientific Press.]

The Lafayette Mine, Hunter's Valley.

The well known locality of Hunter's Valley is situated about five miles from Hornitos, on the road to Bear Valley, Mariposa County, and to the west of Bear Mountain. It comprises a succession of hills, valleys, ravines, gulches, and terminates in a series of chemisal hills, about three miles from Merced River. It is watered by two creeks, and by numerous springs, the water-shed being from the hillsides. The mineral belt which traverses the valley runs in a northeasterly direction.

The celebrated mine, now owned by Mr. Ghirardelli & Co., of your city, and upon which the principal work was done by the first company, is a 140-foot shaft sunk on the vein, and a 40-foot drift on each side of the same. At the depth of about 50 feet from this level, the company have started a drift along the vein on every fifty feet sunk, but the drift does not extend over 20 feet in length. Recently, Mr. D. Ghirardelli has given a contract for sinking the same shaft 60 feet deeper, the work to be prosecuted night and day. When he reaches about 200 feet in depth, he intends to start a drift from both sides of the bottom of the shaft, and commence a systematic development of the mine. The vein is located in talcose slate, the rock showing gold with plenty of sulphurets, yielding from $35 to $70 per ton in the mill. This promises to be the best mine in Mariposa County, as all the rock therein, as well as the rock in the neighborhood, carries more and more precious metal as depth is acquired. Mr. Mosheimer's assay of the ores of this mine is as follows:

No. 1—Average sample of quartz from the bottom of the shaft contains, per ton, gold, $192, silver, $4.80—$196.80.

No. 2—Concentrated sulphuret, gold, $216, silver, $15.40—$231.40.

No. 3—Tailings from the mill, gold, $1,006, silver, $48—$1,054.

No. 4—Crushed sulphurets, gold, $264, silver, $12—$276.40.

Great hopes are entertained on a more thorough development of the mine.

C. Lombardo.

Hunter's Valley, August 1st, 1868.

Important Inventions.—In the machinery department of the Pavilion will be found a new and improved gauging box for making shaved shingles; also, a new machine for beveling and tapering barrel staves, invented and patented by J. W. Alesworth, of Santa Cruz. These two machines are made upon the same principle, and consist of a box having false bottoms which are employed to regulate the width of the staves or shingles. The box for gauging and tapering barrel staves has removable strips placed on the top of its sides, which have the taper desired to be given to the staves. A strip of wood is placed in the angle formed by the false bottom and sides against which the stave to be beveled is placed, which causes it to stand at an angle inside the box. A number of boards intended for staves are thus placed and confined, when by following the taper of the supplemental sides with a drawing-knife, both the proper taper and bevel is given to them. Mr. Alesworth secures his patents through the Agency of the Mining and Scientific Press.

Encourage Home Industry.—California will soon become independent of the Eastern States, with regard to manufactures of all kinds. To this end every person should hold to the doctrine that it is the duty of our citizens to encourage and sustain each other in business. Patronize home manufactories, in all cases, when it can be done, even at a little sacrifice of convenience, if necessary. This is the only way to build up a community. Mutual aid and mutual encouragement is incumbent upon all, if all expect to prosper. Any other course is "penny wise and pound foolish." We have been peculiarly impressed, during the present Fair, at observing the vast number of branches of manufacturing industry which have been opened up in this State, and especially with the great increase which has taken place since the exhibition of two and three years ago. The past fairs of the Mechanics' Institute have been but too truly charged with being largely mammoth advertising concerns for foreign and Eastern productions; but the present is universally acknowledged to be a most creditable exhibition of home manufactures.

Where to Advertise.—The attention of traders and mill machinists is called to the fact that the *Mountain Messenger*, of Downieville, Sierra County, possesses many special advantages as an advertising medium over a majority of the interior press, it being the only public journal published within a radius of sixty miles, in the richest and most populous mining sections of the State. Its weekly edition is double the average of country papers, being without the range of large dailies, and having no competition at home. Its local columns afford many items for our city cotemporaries, while its rates of advertising are reasonably low.

Gas-fitting and Plumbing.—The attention of our readers is called to the advertisement of Messrs. Hely & Cusick, house and ship plumbers, 914 Market street. As they are practical workmen, your buildings will be fitted up with gas, water and steam in the most approved style, and on very reasonable terms.

Excelsior—"Onward and upward"—the progress of the ladies' waterfalls.

Mining and Scientific Press.

W. B. EWER,.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

DEWEY & CO., Publishers.

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☞ For sale by Carriers and Newsdealers. ☜

WRITERS should be cautious about addressing correspondence relating to the business or interests of a firm to an individual member thereof, whose absence at the time might cause delay.

Our Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866

Dr. L. G. Yates is our duly authorized traveling agent. July 6, 1867.

Mr. A. B. Butler is a duly authorized traveling agent and correspondent for this paper. July 15, 1867.

Resident Agents.

CENTRAL CITY, C. T.—Messrs. Richards & Crane, of the City Book Store, Main street, will act as our agents.

GEORGETOWN, C. T.—John A. Lafferty, Postmaster, is our agent in this place.

DENVER CITY, C. T.—Messrs. Woolworth & Moffat, are our agents for this place.

CHEYENNE, D. T.—Mr. Robert Beers is our authorized agent for this place.

OMAHA, N. T.—Messrs. Barkalow & Brothers, are our agents for this place.

Notice.—The partnership of C. W. M. Smith, W. B. Ewer and A. T. Dewey, has been dissolved this day by mutual consent. The Patent Agency and Newspaper Business of the MINING AND SCIENTIFIC PRESS will be continued under the firm-name of Dewey & Co., by A. T. Dewey and W. B. Ewer.

San Francisco, August 1, 1868.

San Francisco:

Saturday Morning, Aug. 29, 1868

Notices to Correspondents.

YOUNG NATURALIST.—The number of species of living plants is estimated to reach 100,000. Of the animal kingdom, the sub-kingdom of radiates number about 10,000; of mollusks, 20,000; of articulates, 300,000; of vertebrates, 21,000; making a total in the animal kingdom exceeding 360,000 species. Of existing vertebrates, the number of species of fishes is about 10,000; of reptiles, 2,000; of birds, 7,000; of mammals, 2,000; forming a total of about 21,000.

SHAKER.—One of the most remarkable cases of an alteration in the relative position of water and land occurred at an earthquake which took place in the year 1819, where in the neighborhood of the Delta of the Indus, an area of two thousand square miles became an inland sea—the fort and village of Sindree sinking until the tops of the houses were only just visible above the water. Five and one-half miles from Sindree, parallel with the sunken area, a region was elevated above the Delta fifty miles long, and in some places ten miles broad. In 1838, the fort of Sandree was still half buried in the sea, and during an earthquake in 1845 the Sindree Lake was converted into a salt-marsh.

GERMANICUS.—Beer was invented by the Egyptians, and was called the Pelusian liquor, because it was first made at Pelusium, a city near the mouth of the Nile. The invention is supposed to have taken place about 1200 years before the Christian era. The intoxicating drink of the northern nations was formed from honey, and was known under the names of mead and metheglin, the latter bearing the same relation to mead that small beer does to XXX ale or porter. The climax of a Scandinavian warrior's glory and happiness was to drink mead from a cup composed of his fallen foe's scull.

CALENDS.—August, the current month, derived its title from Augustus Cæsar, by a vote of the Roman Senate; the previous month, July, having been so named by the same body in honor of his predecessor, Julius Cæsar; and in order to render the compliment equal in all respects, a day was withdrawn from February and attached to August, although by so doing the regular interchange of thirty and thirty-one days, established by Julius Cæsar, was thus disturbed.

DOG-STAR.—The most recent observations place the distance of Sirius from our planet at from 560,000 to 1,224,000 times the diameter of the earth's orbit, which latter is 190,000,000 miles; consequently, even taking only the minimum calculation as the correct one, it would make the total distance amount to 105,040,000,000,000, with a fair probability of amounting to not less than half as much more.

TIN.—The tin mines at Temescal (Cal.) are turning out very well.

[From the Mechanics' Fair Daily Press.]

Trial of the Standish Steam Plow.

On Saturday last, at 2 P. M., there was a noteworthy flow of citizens of a solid and influential character, towards the vacant lot on the other side of the Mission, near Bernal Heights. The cars came thither loaded with bronzed and intelligent looking people, and there were several dozen buggies on the road besides. Farmers and capitalists, representing different sections of the State, were assembling there, to canvass the merits of the Standish Steam Plow,—an entirely original invention as to principle,—which was announced to be put on its first trial in this vicinity, before the eyes of the money-making and farming world, and the critical judgment of the attendants, patrons, and judges of the Mechanics' Institute Fair.

The plow has been described heretofore. It is a locomotive adapted to land travel, with a hack frame, which may be raised or dropped, sustaining a series of vertical knives, that revolve around their respective shaft centers whence they derive their propulsion, and cut the earth into the finest particles, to a depth of six inches, and a width of twelve feet, as the plow goes moving on through the field.

A tractive power sufficient to drag a wide gang-plow through the soil, has never been attainable in any kind of plowing locomotive with satisfactory economical results; therefore, the only steam plow that has become an established success, is the one where a stationary engine is employed, and the plow dragged to and fro by means of ropes and pulleys. All this complicated machinery is rendered unnecessary by the Standish Plow, for the simple reason that the results aimed at are accomplished without the agency of so great an amount of traction; and therein consists the novelty and advantage of the California steam plow, over all other inventions of the kind that have ever been submitted to the test of trial.

The ground to be experimented upon was very dry and hard—baked to the brick-like consistency which is characteristic of most California soils in the hight of the dry season. It was level, but the plow had traveled over places in getting to it where it had to overcome five feet in twenty of rise; though it could not be expected ever to plow up a grade of more than one in ten. Its weight, with coal and water aboard, is about eight tons; and the engine is one of 24-horse-power.

As the wonder-inspiring machine advanced over the ground, doing its work of pulverizing the soil more effectively and more speedily than 500 men could have done it with picks and hoes in the same space of time, a host of visitors followed it up closely, and studied its operation, under the hem of a vast cloud of brown dust, which arose from the cutters, and was carried away before wind. In the wake there were individuals with sticks, probing down through the loosened soil, to ascertain whether the plow had really done its work efficiently, where the knives had necessarily cut, and cross-cut, every square inch of the ground passed over.

The result was one of general satisfaction. Plowing was done at the rate of about 20 acres a day; whilst in loose or moist soil it might have been done at the rate of 40 to 50 acres. The problem of saving muscle, in so thorough a tillage of the soil, by the substitution of steam, seemed to have been unequivocally solved. It was one of those events which may be noted as a mark of the progress of humanity, and whose significance, though suggested, can scarcely be realized at the time of its occurrence.

Some there were who objected to the operations of the plow on theoretical grounds—that it did not turn the soil. But the fact was evident that there was just as much of the top soil buried below, and as much of the subsoil brought to the surface, as was consistent with a thorough and even mixture of all the ground brought in contact with the knives. Weeds were not buried, but they were shaken up and left in the condition that the gardener leaves them in—lying around loose on the surface. Had they been plowed under, they would only have aided in drying out the ground on the top of them. This mixing of the soil, it is claimed by Mr. Standish, in virtue of actual experiments, has the effect to increase the yield of the land forty per cent. a result which he surmises may be owing to the fact that a rapid agitation of the soil electrifies it; and as it is also exposed to the action of the atmosphere, from which it is well known that the soil derives a portion of its fertilizing properties, the claim must be allowed to rest on a basis worthy of consideration.

Amongst the improvements suggested by experience are: that the plow may be reduced to about 5½ tons in weight, and made to be of a more compact and handsome appearance; that the sweep of the cutters may be reduced, with advantage, from three feet to two feet in diameter, and the number accordingly increased from four to six; the effect of which would be to plow more evenly, and to avoid throwing the ground into ridges in hard ground, a result observed in a portion of the work on Saturday, yet which could have been avoided by running the engine a little faster, relatively to the speed of the cutters. A thousand feet of travel per minute is all that the cutters will bear through hard ground without heating and losing their temper. That speed corresponds to about 170 revolutions per minute of the upright shafts which revolve the cutters. Each cutter reaches into fresh soil, ahead of the previous one, from two to six inches, according to the speed of the locomotive.

That the steam plow is not fairly open to the objections which have been made to it on the score of weight and bulkiness, will appear when it is remembered that it performs the work of thirty horses, which would weigh fifteen tons, not reckoning the weight of their plow; while the steam plow weighs less than eight tons. The area of the wheels touching the surface, is greater than that presented by the feet of the thirty horses, and there is, therefore, a greater capacity for buoying up the machine in loose ground.

A drawing for a new plow, with some contemplated minor improvements, may be seen at the steps on the left hand side of the entrance to the Art Gallery, at the Fair. A harvesting attachment, intended to replace the plow attachment, is also represented. This will cut a swath of twenty feet in width; and five men will harvest, thresh and sack, with it 40 to 50 acres a day.

The straw is carried forward to the fire-place, and about one-third of it is consumed for firing, the experiment of using it for that purpose having been sufficiently tried to prove it to be practicable. In this harvesting attachment the speed of the threshing cylinder can be regulated to suit the character of the grain, whilst that of the cleaning machinery is uniform. To prevent fire, gauze protections are supplied, as in the case of stationary steam threshers.

FOREMAN'S TYPE ECCENTRIC.—Among the many interesting exhibitions of inventive skill that divide a visitors' attention during an evening at the Fair, is the type casting machine, made and recently improved by Mr. Andrew Foreman, Superintendent of Faulkner's California Type Foundry. This class of machinery has heretofore cast only six sizes of type, but by the introduction of an eccentric, in place of the old cam and spring, sixteen sizes of type may be obtained from one machine, where before several were required, together with different sets of patterns for each, involving great expense. Nor is this the only advantage gained by the eccentric. The cut-off is so sudden and perfect that much harder metal may be used in casting small letters, an objection difficult to overcome, the hardness of metal rendering it porous and brittle. In fact, it was this obstacle, we believe, that suggested the simple device by which it has been overcome. The superiority of metal used, and of the machinery with which it is cast, produce a density of body in the Faulkner type that is not found in any other, and the durability of face is proportionately increased. The antimony and lead used at this foundry are obtained from our own mines on the coast.

LUCY & HYMES offer for sale from their wholesale house, 314 California street, all the standard brands of soap. Their facilities for manufacturing are such as to afford a reduction of prices to the trade, and at the same time give a superior article to their customers. The Excelsior Washing Powders are also the production of this establishment, and have become a favorite with the public. Their virtues are easily tested, and the amount of time and hard labor saved by their use would surprise the public were it expressed in figures.

Surveying Instruments.

Mr. John Roach, mathematical instrument maker, 522 Montgomery street, exhibits some very superior instruments of his own make, consisting of a solar transit, miner's compass, and an engineer's transit. This last named, mounted on its tripod, is a bronzed instrument, which is generally preferred to the bright lacquered work. The graduation on the limb is marked to half degrees, reading by two verniers on opposite sides to single minutes, which by reversing show complete coincidence. A careful examination reveals the fact that it is not the work of an apprenticed hand; but of a head and hand long experienced. It is noticeable for the stout and solid axis on which the telescope revolves, for the cone or dish-shape of the lower limb, and the firm centers on which it turns, as it rises from its tripod. We are informed that the axis, lower plate and centers are the parts most frequently injured, and which in consequence require the maker's especial attention. In this case, these weak points appear to have been well guarded against.

The miner's compass is complete with tripod, parallel plates and box, used for obtaining angles, magnetic courses and approximate levels, independent of local attraction. The angle of a shaft, sunk even perpendicularly, may be taken, which can not be done by the ordinary surveying instruments. This instrument should be in the hands of every captain of a mine, being particularly intended for underground work.

The solar compass, or solar transit, is a curious looking instrument; so much so that visitors at the Pavilion, even surveyors, ask "what is it, and what for?" The solar compass was invented in 1835, and underwent many changes and improvements up to 1851, when one was exhibited at the World's Fair in London, and awarded a premium medal by the jurors on Astronomical Instruments. This has, however, many improvements on that of 1851. The telescope, which transits on the axis for taking forward and backward sights, has a double nonius traversing over the graduated limb, and all the facilities for the general work of a large-size transit. The solar apparatus, with latitude arc, and declination arc, moved by rack and pinion, and clamped at the proper place, gives the true meridian at the very moment of observation, and may be used independently of the magnetic needle in bright weather; while on cloudy days the needle, with its known variation, can be resorted to for retracing lines previously run or detecting the lines of former surveys. The survey of government lands is generally made by this kind of instrument. One which has been in the hands of a surveyor, and been used in the field for over twelve months, can be referred to with satisfaction. All this work was executed in this city by Mr. Roach.

DENTAL IMPROVEMENT.—In the department devoted to dentistry, at the extreme left of the art gallery, we have examined, with considerable care and interest, a neatly arranged case exhibited by Dr. George W. Cole, recently from Portland, Oregon, and at present occupying rooms No. 14 Third street, in this city. Having taken out a patent last year for an improved mode of fastening a thin plate of gold, as a lining to the entire concave surface of the vulcanite plates in ordinary use, the Doctor has here placed some of the vulcanite plates, roughened by use and blackened with tobacco smoke, alongside of some beautiful specimens of the new work; thus showing, by the contrast, the superiority of the one over the other, much better than could be given by the most elaborate description. The advantages claimed for this improvement, in addition to those alluded to or readily occurring to the mind of the reader, are that it makes a thinner and at the same time a much stronger plate than the vulcanite. This style of plate admits of a very fine finish on the concave or plate surface. The secretions of the mouth are not so liable to adhere to the new plate as to the vulcanite; discoloration rarely if ever being produced by attendant acids. Vulcanite being a non-conductor of heat, produces an unnatural warmth, often inducing inflammation; while gold, being a good conductor, has a tendency to keep the mouth cool and to prevent all irritation.

[From the Mechanics' Fair Daily Press.]

Stretch's Map of the Workings on the Comstock Lode.

A finely executed lithographic map, drawn by R. H. Stretch, M. E., late State Mineralogist of Nevada, showing the workings in the Gould & Curry, Savage, Halo & Norcross, Chollar-Potosi and Bullion mines on the Comstock lode, 2x5 feet in dimension, has been published by Britton & Rey, which is the most valuable contribution of the kind that has yet appeared on the coast, illustrating the status of extensive underground operations. Such maps are exceedingly valuable to stockholders and to all interested in the mines represented, as they convey a better idea of the actual condition of things than could be obtained by crawling through the levels and shafts; and they are absolutely necessary for the engineering calculations constantly required from and made by intelligent superintendents. The works are shown from the beginning up to July, 1868; and the map was compiled from actual surveys made by Messrs. Stretch, James & Mason, so that it may be depended upon as reliable. The depth of each level is noted as regards its own shaft, and with reference to a common datum point for convenience of comparison. Red, green, blue, violet, yellow and brown colors are made use of to indicate levels of different depth to the eye, at a glance. The map is divided up by fine lines into squares of 100 feet each, affording a convenient scale for the determination of horizontal distances underground. In appearance it is handsome and workmanlike, but plain and unornamental. It may be had at Gensoul's, in this city, or at Lillie's, in Virginia City. Having been lithographed on good paper, any additional workings can be drawn upon it as they are done, without detriment to the general appearance.

A similar map on a larger scale, of the Chollar-Potosi mine, also by Mr. Stretch, may be seen on the walls of the front gallery at the Fair. It is more ornamental, and much larger; and is enhanced in value by the addition of front and side elevations, —which were omitted in the present map probably for the purpose of avoiding an inconvenient increase of size that would have been necessary. The Potosi, Chollar, Bajazette, and new shafts, are all shown, and the timbering is indicated by square subdivisions.

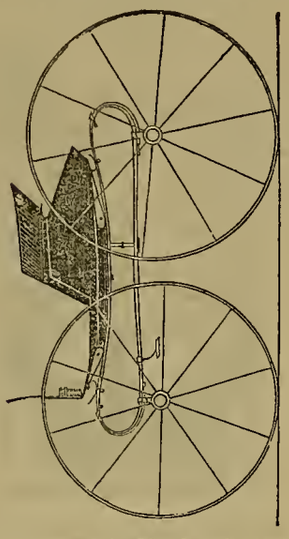
Important Railroad Invention.

The great objection to American railroads and railroad engineering, which one constantly bears talked about abroad and discussed with shuddering, is the frequency amongst us of dreadful railroad accidents; and it cannot be denied that the American railroad traveler on many of our roads takes his life in his hands, and commits it to the gods whether his body shall be mangled and torn, or whether he shall come off with the loss of a limb, or whole and rejoicing at his journey's end. A little invention by Dr. Beers, is on exhibition at the telegraph stand to the right of the fountain, which seems to be of particular merit in this respect, and which, if practicable, will prove the Americans to be equal to the emergency; as it promises to secure perfect safety of travel on the bad roads, which are admitted to be excusable only on the plea of long distances through new and unsettled countries. At dangerous places on the road, Dr. Beers proposes laying a middle rail, similar to the ordinary T rail, which is caught, under the flanges forming the top of the T, by two horizontal friction wheels, one on each side, fastened to the bottom of the car, and which run along without necessarily touching, except when the car springs up; making it thus an utter impossibility for any car to run off the track. The device is so simple, inexpensive and apparently practical, that it would seem probable of being brought into practical use on such stretches as the Oakland piles, or on exposed curves in the Sierra. The endings are pointed so that the car would take its hold on the safety-rail, and cling to mother earth at dangerous places, without requiring to be looked to in any manner by the engineer of the train. We are informed by Dr. Beers that no similar device for the accomplishment of the same purpose, has ever been proposed, or patented before. A middle rail has been used, however, on the Mount Cenis Railroad for the purpose of climbing, the horizontal wheels being, in that case, set in motion by the engine and caused to serve as climbers by virtue of friction.

A Mammoth Carriage Manufactory.

Geo. P. Kimball & Co's carriage manufactory, occupying an entire 100-vara lot on the corner of Fourth and Bryant streets, in this city, is believed to be the largest building on the Pacific Coast. In order to form a faint conception of its dimensions, we would state for the benefit of the reader, that it has a total of floor-room (not including 225 feet square in the yard) of 86,000 square feet, or 19,000 more than the Mechanics' Pavilion.

The lot on which the building stands is valued at about $100,000, and the whole cost of buildings and machinery amounts to about $150,000. In mentioning these works, the *Daily Alta* says: This structure



was commenced in March only, and although the rain, scarcity of material, and delays of various kinds absorbed twenty days of the period between its commencement and its completion, less than three months have sufficed to erect a structure that does honor to our State, and exhibits a confidence in its future that cannot but result most favorably in a pecuniary point of view. Of late, California manufactured wagons have been much more popular than the imported, as they are better adapted to the requirements of the country, and the business has increased in proportion to the growing wants of an increasing community.

Messrs. Kimball & Co. are widely known throughout the State, and their wagons are like household words. About one year since they conceived the idea of a combination of the principle of the perch-spring and thorough-brace—the perch and spring being one piece, and steamed and bent, forming a curve, over which the thorough-brace passes, and upon which the body of the wagon rests, an illustration of which is herewith given. They also substitute a steel plate for the usual heavy axle, thus lessening the weight of an ordinary wagon 33 per cent. The experiment has proved a great success, and Messrs. K. & Co. having received their letters patent for these improvements, determined to increase their facilities for manufacturing equal to the demand; for this purpose they have erected a manufactory unequaled on this coast, and perhaps not excelled in the United States." Having already mentioned the fine display of this firm in the Pavilion, we will add, in conclusion, that they are employing about 200 men in their business, and are turning out per month, in addition to other work, 100 C spring thorough-brace buggies, and have orders for four months ahead.

"If men or women could but find the fabled fountain which is said to restore health, and strength, and beauty, with what eagerness they would rush to to drink its waters." It is found in the S. T.—1860—X. The sale of the Plantation Bitters is without a precedent in the history of the world. They are at once the most speedy, strengthening health-restorer ever discovered. It requires but a single trial to understand this. *

Celebrated Blacking.—More songs have been composed and sung upon the virtues of boot-blacking and excelsior soaps than on most any other theme, save that of love and romance; but they seem, after all, to have portrayed all the virtues that belong to Anstin's celebrated California manufactured oil paste polish, which appear to possess a freshness and ease of polish which the other brands seem to have lost by transportation. J. Bray, at 416 Battery street, is agent for this and all other kinds of valuable blacking that is offered to the trade.

The *blind* made to *see* (almost) at the spectacle emporium of C. Muller, 205 Montgomery street—the place to get your spectacles. *

We learn that a refreshment saloon, to be conducted on the European plan, was opened last week in a large ornamental building just completed at Woodward's Gardens, under the supervision of Mr. Habermehl. *

Wanted—At this office, the postoffice address of Enraght Massey, late of Gold Hill, Nevada.

Notice.—Persons interested in locating Mineral Lands in California or Nevada, will do well to observe the advertisement of N. Wescoatt, S. & M. E, in another column.

Co-Operative Union Store.—This is becoming one of the most useful institutions in the city, and the Mechanic and Laboring Man fully appreciate it. They are now enabled to buy their Groceries and Provisions 20 per cent. cheaper than ever before, and the very best articles in the market. The store is located at 115 Sutter street, Lick House Block, San Francisco. 6v16-atm

Save Your Teeth.—Drs. Jessup & Beers, over Tucker's jewelry store, are now making a specialty of filling the fangs of dead Teeth, and building up broken crowns with *pure gold*—thus restoring them to their original usefulness and beauty. They are also using Nitrous Oxide for the painless extraction of Teeth, when so desired—the only absolutely safe anæsthetic ever discovered. In breathing it, it acts as a gentle stimulant, without undue excitement,—the sensation produced being truly delightful, the effect upon the lungs healthful, and in its results positively free from all danger. Prepared and administered daily at the Dental Rooms of Messrs. JESSUP & BEERS, corner Montgomery and Sutter streets, San Francisco. 16v16tf

IT
will heal
old sores, piles,
ulcers, cancers,
salt rheum, and break-
ing out on any part of the
body, and also removes pain
of every name or nature instant-
ly. It is a harmless liquid, and leaves
no smart or stain, and is called Moore's
Pain Paint For catarrh and colds in the
head, Moore's catarrh remedy affords a safe,
sure and speedy cure. Both remedies sold
by druggists everywhere, and at Moore's
office, 652 Market street, northeast
corner of Kearny, where all pain
is instantly removed, free
of cost, as hundreds can
now testify from ac-
tual tests.
8v17-3m

NORTH AMERICA
Life Insurance Company.

Usual Restrictions on Occupation and Travel
ABOLISHED!

Policies of this Company are guaranteed by the State of New York, which is true of no other Company on this Coast.

The most Responsible and Liberal Company in the World!

J. A. EATON & CO.,
Managers Pacific Branch, 302 Montgomery st.
20v14nr9p SAN FRANCISCO.

LOUIS F. KNIGHT,
UPHOLSTERER,
—AND—
Dealer in Carpets and Oil Cloths,
542 California St., near Kearny,
SAN FRANCISCO.

CORNICES and WINDOW SHADES constantly on hand. All kinds of UPHOLSTERING executed neatly, with dispatch. 9v17

To Capitalists and Mining Men.

The undersigned, President of the OLOBE GOLD AND SILVER MINING COMPANY, located in Monitor, Alpine County, Cal., (capital $650,000) and owner of a controlling interest, (two-thirds) wishes to negotiate for a LOAN to continue the work of development, now in progress, during his absence in New York, whither he proposes to sail on the 5th of September, for the purpose of raising necessary working capital (by sale of ten thousand shares of unassessable stock, appropriated for that purpose) to erect reduction works, etc. Or would sell an interest at a price that would insure a very large and immediate profit, simply as a speculation. Maps, reports, etc., and all other information, on application, from 9 A. M. to 12 M., or 2 to 5 P. M., at my room, 735 Green street, first cottage in the alley.
9v17 J. WINCHESTER.

Support Home Manufactures.

California Pioneer Fuse
MANUFACTURING COMPANY,
MANUFACTURERS OF
HOSE AND TAPE FUSE,
A New and Superior Article for Blasting in very wet ground, or under water.

Great difficulty has heretofore been experienced by miners, and others in the use of Fuse, which has been subjected to deterioration from exposure to dampness during transportation, or during the great length of time which has passed between its manufacture and use. In addition to great painstaking in the manufacture of the California-made Fuse, the above and many similar objections are entirely obviated, and the operator can always depend with certainty upon the burning of his fuse.

It is often the case that extra lengths are required, as exploding tunnels, etc., longer than is furnished in the imported article. Fuse of every desired length or size can be made to especial order, at the above manufactory.

Manufactory, - - - - Potrero, San Francisco.
JOS. POWNING, Sec'y. JAS. EVA, Supt.
17v16-9ptf

PACIFIC
Rolling Mill and Forge Co.,
SAN FRANCISCO, CAL.
Established for the Manufacture of
RAILROAD AND OTHER IRON
—AND—
Every Variety of Shafting,
Embracing ALL SIZES of
Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames
—ALSO—
HAMMERED IRON
Of every description and size.
☞ Orders addressed to PACIFIC ROLLING MILL and FORGE CO., Post Office, San Francisco, Cal., will receive prompt attention.
☞ The highest price paid for Scrap Iron. 9v143m9p

A Book for Every Miner and Scientific Man.
JUST PUBLISHED,
KUSTEL'S NEW WORK,
CONCENTRATION
Of all kinds of Ores, and the
CHLORINATION PROCESS,
For Gold-Bearing Sulphurets, Arseniurets, and Gold and Silver Ores generally.

Price, - - - - - $7.50

A liberal discount to the Trade. For sale by the Booksellers Sent to any part of the United States, postage paid, on receipt of the price. Address,
DEWEY & CO., Publishers,
Office of the Mining and Scientific Press, 414 Clay street,
16v1tf SAN FRANCISCO.

NOTICE.

On and after this date, all parties on the Pacific coast manufacturing, using, or selling
Dunbar's Patent Piston Packing,
must obtain a License for the same from the undersigned, or they will be subject to the penalties of the law.
H. S. SMITH,
Ætna Iron Works.
San Francisco, August 15th, 1868. 7v17-3m

Pacific Chemical Works.
SULPHURIC ETHER.
SPIRITS OF NITRE,
AQUA AMMONIA,
ACETIC ACID,
CYANIDE OF POTASSIUM
—AND—
ACIDS AND CHEMICALS OF ALL KINDS.
FALKENAU & HANKS,
Office, 619 Montgomery Street.
LOUIS FALKENAU, State Assayer.
☞ Particular attention paid to the Analysis of ORES, MINERALS, METALS, etc. 8v17

The Risdon Iron & Locomotive Works.
Incorporated, April 30, 1868. Capital, $1,000,000.
Location of Works, Corner Beale and Howard streets, SAN FRANCISCO.
Successors to Pacific Mail S. S. Co. Works at Benicia, Coffey & Risdon, and Devoe, Dinsmore & Co., San Francisco.
Steam Engine Builders, Boiler Makers,
MACHINISTS AND FOUNDRYMEN.
All work in their line attended to with promptness and dispatch. Director:—S. F. Butterworth, Lloyd Tevis, Jas. Pollock, Ben. Holladay, Chas. E. McLane, John N. Risdon, Joseph Moore, John N. Risdon, President; Joseph Moore, Vice President and Superintendent; Chas. E. McLane, Treasurer; Lewis R. Mead, Secretary; Lewis Coffey, Superintendent Boiler Works. 8v17-qy

Machinists and Foundries.

PALMER, KNOX & CO.,

Golden State Iron Works,

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MANUFACTURE ALL KINDS OF

MACHINERY,

STEAM ENGINES AND QUARTZ MILLS

DUNBAR'S IMPROVED

Self-Adjusting Piston Packing,

Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

WHEELER & RANDALL'S

NEW GRINDER AND AMALGAMATOR

HEPBURN & PETERSON'S

AMALGAMATOR AND SEPARATOR,

Knox's Amalgamators,

WITH PALMER'S PATENT STEAM CHEST,

Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continual working.

Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10qy-tf

WILLAMETTE IRON WORKS,

PORTLAND, OREGON.

Steam Engines, Boilers,

SAW AND GRIST MILLS,

MINING MACHINERY, WROUGHT IRON SHUTTER WORK, AND BLACKSMITHING IN GENERAL.

Corner North-Front and E streets,

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UNION IRON WORKS,

Sacramento.

WILLIAMS, ROOT & NEILSON,

MANUFACTURERS OF

CROSS' PATENT BOILER FEEDER,

STEAM ENGINES, BOILERS,

And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old Cylinders, manufactured to order.

Front Street, between N and O streets,

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GLOBE

Foundry and Machine Shop,

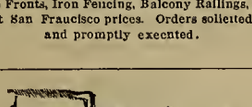
STOCKTON, CAL.

KEEP, BLAKE & CO.,

MANUFACTURERS OF

Quartz, Saw and Grist Mill Irons, Steam Engines, Horse Powers,

Mining and Irrigating Pumps, Car Wheels, Derrick Irons, House Fronts, Iron Fencing, Balcony Railings, etc., at San Francisco prices. Orders solicited and promptly executed. 13v13-1y



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COPPERSMITH,

226 Fremont st., bet. Howard & Folsom.

All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to.

13v11

GEORGE T. PRACY,

MACHINE WORKS,

Nos 109 and 111 Mission street, between Main and Spear, SAN FRANCISCO.

STEAM ENGINE, FLOUR AND SAW MILL

And Quartz Machinery, Printing Presses,

—AND—

MACHINERY OF EVERY DESCRIPTION MADE AND REPAIRED.

☞Special attention paid to Repairing.☜ qy-3

CITY IRON WORKS COMPANY.

CLERC & CO.,

IRON FOUNDERS,

Steam Engine Builders, and Makers of all kinds of Machinery.

6v16qr No. 28 Fremont street, San Francisco.

To Foundrymen and Blacksmiths.

LUMP LEHIGH AND CUMBERLAND COAL, IN ANY quantity, sacked and shipped to any part of the country, by JAS. R. DOYLE, Coal Dealer, 413 and 415 Pacific street, Bet. Sansome and Montgomery, 24v15-3m San Francisco.

Miners' Foundry

—AND—

MACHINE WORKS

Nos. 245 to 255 First Street,

San Francisco.

HOWLAND, ANGELL & CO.,

PROPRIETORS,

Manufacturers of Machinery for

QUARTZ MILLS. FLOUR MILLS,
SAW MILLS, SUGAR MILLS,
POWDER MILLS, PAPER MILLS

Steam Engines of all Kinds.
Amalgamators of all Kinds.

MINING PUMPS, HOISTING WORKS
OIL WELL TOOLS, ROCK BREAKERS,

—AND—

Machinery and Castings of all kinds, either of Iron or Brass.

Boilers and Sheet Iron Work in all its Branches.

Shoes and Dies of White Iron, manufactured for and imported by us expressly for this purpose, and will last 25 per cent. longer than any other made on this coast.

Russia Iron Screens, of any degree of fineness. We are the only manufacturers on this coast of the "Hicks Engine," the most compact, simple in construction, and durable, of any Engine in use.

W. H. HOWLAND, H. B. ANGELL,
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FULTON

Foundry and Iron Works.

HINCKLEY & CO.,

MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Hayes' Improved Steam Pump, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.

N. E. corner of Tehama and Fremont streets, above Howard street, San Francisco. 3-qy

BAURHYTE, McAFEE & SPIERS,

BOILER MAKERS

AND GENERAL MACHINISTS,

Howard st, between Fremont and Beale, San Francisco.

Fine or Tubular **Boilers,** with plain circular or spiral courses. Upright Fine or Tubular Boilers, Locomotive and and Marine Boilers, and Wrought Iron Tanks of every description.

Hydraulic Pipe supplied at reasonable rates. In ordering, give the quantity of water to be supplied, hight of the fall, and total length of pipe, so as to enable the firm to determine the diameter of the pipe and thickness of iron to be used.

Repairs.—Boilers, Smoke Stacks, Pipes, etc., put in repair with promptness.

To Boiler Makers and Machinists in the Interior.—The firm is prepared to furnish estimates of Boilers, sup ply new Heads, drilled and punched, and attend to the selection and forwarding of Iron for Boilers, Pipes and other purposes.

Plans, Drawings and Specifications.—The firm is prepared to make out Plans and Specifications, receive estimates, and superintend the Erection of any Machinery that may be entrusted to their care

To Inventors.—The firm is prepared to assist in developing the plans of those who have the ideas but not the practical experience necessary to put the same in form, by making Drawings of their Inventions, giving them the benefit of their practical knowledge in the construction of Machinery, and attending to the manufacture and introduction of their Inventions. 1v16tf

J. NEWSHAM. J. BIGWOOD.

SOUTH BEACH IRON WORKS,

Near corner of King and Third streets, San Francisco.

MARINE ENGINES,

AND ALL KINDS OF

MACHINERY FORGING.

All kinds of Ship-smithing and Mill work manufactured to order. Jobbing of every description promptly attended to. All work done guaranteed. 13v14-1y

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D. FOURNESS, Proprietor.

STEAM ENGINES,

Flour and Sawmills, and MACHINERY of all descriptions made and repaired at shortest notice.

☞Particular attention paid to repairing Reynold's Cut-off 5v15qr

CALIFORNIA BRASS FOUNDRY.

No. 125 First street, opposite Minna,
SAN FRANCISCO.

ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞ PRICES MODERATE. ☜

J. P. OALLAGHER. J. H. WEED. V. KINOWELL.
9v13-1y

California Labor and Employment Exchange

319 Battery Street, San Francisco.

MINING COMPANIES, MANUFACTURERS, CONTRACTORS, and employers of all descriptions of labor, are requested to send their orders to the Exchange at once.
19v16-3m H. C. BENNETT, Secretary.

BY MAIL.—The *Mining and Scientific Press* will be sent by mail to any part of the civilized world. In case of removal subscribers have only to inform us of the post office address of their old and new location, and the paper will be sent accordingly.

IRA P. RANKIN. A. P. BRAYTON. A. C. AUSTIN.

Pacific Iron Works.

First and Fremont Streets,
SAN FRANCISCO.

Having been established since 1851, we have accumulated a very large variety of Gear and other Patterns, which, with our superior tools and appliances, give us facilities for doing first class work unequaled on the Pacific Coast.

Among other things, we manufacture the following:

STEAM ENGINES,

Horizontal and Vertical, for either Stationary or Marine use.

BOILERS—High and Low Pressure,

Pump, Pipe and Sheet Iron Work of every kind.

Quartz Mill Work,

Including High and Low Mortars, for wet or dry crushing; Furnace Irons for Roasting Ores; Freiberg Barrels; Varney's and Wheeler's Amalgamating Pans and Settlers; Stamp Shoes and Dies of best White Iron; Russia Iron Screens, etc., etc.

Flour Mill, Saw Mill and Sugar Mill Work in every variety; Pumping and Hoisting Machinery; Hansbrow's Patent Challenge Pump, for Domestic, Ship and Mining use—the most approved and successful Pump manufactured.

Castings of every description, Iron and Brass.

We would call especial attention to "Wright's Patent Variable Cut-off Engines," of which we are the sole manufacturers on the Pacific Coast, under license from the Woodruff & Beach Co., Hartford, Ct. As a simple, effective, FUEL SAVING, first-class Engine, this is, without doubt, the best Engine made in the United States.

Orders promptly attended to. Prices as low as possible for first class work, and we intend to do no other.

GODDARD & CO.

San Francisco, May 1, 1868. 18v16tf

Phœnix Iron Works.



JONATHAN KITTREDGE, Proprietor,

Nos. 18 and 20 Fremont street, near Market,

MANUFACTURER OF

Fire-Proof Doors, Shutters,

Wrought Iron Girders, and all kinds of Housesmith work, Bridge and Prison Work;

BANK VAULTS AND MONITOR SAFES,

FORGING AND MACHINE WORK.

Agency for the ISHAM KEY REGISTER BANK AND SAFE LOCK, the only first class Lock in the United States. 1v17tf

THOMPSON BROTHERS,

EUREKA FOUNDRY,

129 and 131 Beale street, between Mission and Howard, San Francisco.

LIGHT AND HEAVY CASTINGS,

of every description, made to order. 24v16qr

REESE LLEWELLYN. STEPHEN FLETCHER.

LLEWELLYN & FLETCHER,

COLUMBIA FOUNDRY,

133 and 135 Beale street, near Howard, San Francisco, Manufacturers of **House Fronts, Sash Weights,** and Machinery Castings of all kinds. 24v16qr

EMPIRE FOUNDRY,

294 Howard street, near Beale, San Francisco.

CASTINGS OF EVERY DESCRIPTION

Made to order with neatness and dispatch. Particular attention given to the manufacture of SHIPS' IRONS.

5v17qr S. A. YOUSE, Proprietor.

Oakland Point Foundry,

Near Oakland Point R. R. Station,

MANUFACTURES

House Fronts, Sash Weights,

Ranges, Light and Heavy Castings of all kinds.

Having this day dissolved partnership with G. A. Walker, the business will hereafter be conducted in the name of the undersigned.

☞All orders promptly attended to.

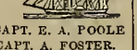
MARTIN T. MEAD.

July 16, 1868. 3v17-1m

California Steam Navigation



COMPANY.



Steamer CAPITAL.....CAPT. E. A. POOLE
" CHRYSOPOLIS.....CAPT. A. FOSTER.
" YOSEMITE.....
" CORNELIA.....CAPT. W. BROMLEY
" JULIA.....CAPT. E. CONCKLIN.

Two of the above steamers leave BROADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted), one for Sacramento and one for Stockton, those for Sacramento connecting with light-draft steamers for Marysville, Colusa, Chico, and Red Bluff.

Office of the Company, northeast cornor of Front and Jackson streets.

B. M. HARTSHORNE,
13v12 **President.**

J. M. HAVEN,

ATTORNEY AND COUNSELOR AT LAW

Room 25 Montgomery Block,

27v16 SAN FRANCISCO.

THE AMERICAM SPRING BED.—As a substitute for the costly, clumsy, rickerty, spiral-spring beds in general use, we hail this invention as an innovation of more than ordinary consequence. The springs are independent of the mattress and not likely to get out of order; but in case they do, any one can repair them at a trifling expense. It is portable, durable, and therefore convenient. The writer has used one of these beds for several months, and is more than satisfied with its action. It is easily fitted to any ordinary bedstead at a total expense of about four to seven or eight dollars only. G. W. Kinzer is agent, under Mechanics' Institute, and the bed is among the new and attractive inventions on exhibition in the Fair. We are sure no one will ever return to the old style of springs after a fair trial of these.

GOLDEN RULE EMPORIUM.—This is the trade-mark of Geo. Thakrah, the extensive dealer in men's furnishing goods, fancy articles, etc., 59 Second street. Those who have not called on Thakrah, have failed to form an acquaintance with one of the best and cheapest stock of goods in the city—the best goods at the lowest prices.

THE MODERN BELLE.—Jones says the reason why young ladies are called belles, is because they have so much brass in their composition,—make so much sonnd,—and have clappers which strike as they go up or down. Our lady friends must remember that Jones is a miserable old bachelor, or he would not publish such a libel on them.

CARRYING A JOKE TOO FAR.—A fellow was caught the other evening with half a dozen pair of knitted socks, which he had taken from one of the stands at the Fair. When arrested by the officer, he said he only took them as a joke. As he had taken them outside of the Pavilion, the officer said that was carrying the joke too far. The joker is now in the calaboose.

GEO. E. ROGERS,

(Successor to O. W. Bell.)

ASSAYER,

512 California st., San Francisco.

J. A. MARS, Assayer.

Ores carefully Assayed. Gold and Silver Ores worked.
23v16-qr10pnr

International Hotel,

JACKSON STREET

BETWEEN MONTGOMERY AND KEARNY STS.,

SAN FRANCISCO, CAL.

THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The Beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.

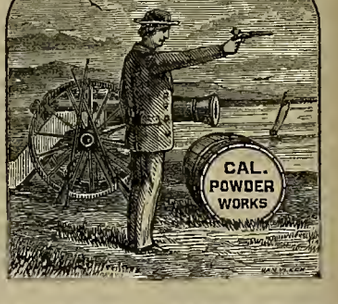
Prices varying from $1 50 to $2 per day for Board and Room.

FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.

☞Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents

2v12 F. E. WEYOANT, Proprietor.

GUNPOWDER.



The California Powder Works

Manufacture all kinds of Sporting, Rifle, Musket, Pistol, Blasting, Mining, Meal and Fuse POWDER, of superior quality.

Eureka Grain Powder in 6¼ and 1 lb canisters.

Pacific Sporting Powder, in 12½ kegs, 6¼, 1 lb and ½ lb Canisters.

Pacific Rifle Powder, in 1 lb kegs, and 6¼, 1 lb and ½ lb canisters.

California Sportsman Powder, in 1 lb kegs, 6¼, 1 lb and ½ lb canisters.

Sea and River Powder, in 25 and 1 lb kegs, and 6¼ canisters.

Valley Mill Powder, in 25 and 1 lb kegs, and 6¼, 1 lb and ½ lb canisters.

Pistol Powder, in ½ lb canisters.

Cannon, Musket and Blasting Powder in 25 lb kegs

Mills at Santa Cruz. Office, 318 California St.

JOHN F. LOHSE, Secretary.

IT IS NOT TRUE.—The oft-quoted idea that "a fellow feeling makes us wondrous kind," is not true. Jones found a fellow feeling at his coat tails, for the purpose of extracting his pocket-book, which so far from making him feel wondrous kind, made him as mad as thunder.

JAS. G. STEELE & CO.,

Chemists and Apothecaries,

Manufacturers of Steeles' Proprietary Preparations, Mineral and Soda Waters, and Importers of Pure Drugs, Chemicals, Patent Medicines, Colognes, Soaps, Brushes, Perfumes, etc.

List of Steele's Proprietary Preparations:
Glucolein, Wine of Pepsine,
Amantine, Saponaceous Tooth Powder,
Florentine Tooth Wash, Devino's Cough Lozenges,
Glycerine Lotion, Rosemary and Castor Oil,
Orientale for the Hdkf., Steele's Bay Rum,
Cold Cream of Roses, Steele's Cologne,
Solution and Granules of Citrate Magnesia.

JAMES G. STEELE & CO.,
521 Montgomery street, between Clay and Commercial, San Francisco.
☞For sale—the Celebrated Electro-Silicon Polish.

JOHNSON & BEST,

CARPENTERS AND CABINET-MAKERS,

717 Market Street, near Third.

STORES AND OFFICES FITTED UP. Office Desks, Show Cases, and all kinds of Cabinet Work, made to order.
Furniture Repaired, Varnished and Polished.
FRENCH POLISHING DONE TO ORDER.

CALIFORNIA TRUST COMPANY,

OF SAN FRANCISCO.
Office, No. 421 California street,
Hayward's Building, next to Merchants' Exchange.

Capital One Million Dollars.

Bank of Deposits and Loans.
Accounts Kept, subject to Check or Drafts.
Correspondent for Banks and Bankers.
INTEREST ALLOWED ON DEPOSITS & TRUST FUNDS.
Money Loaned only on Good Securities.
Safe Depository for Bonds, Stocks, Jewelry, Silverware, Etc.
Collections and Disbursements Promptly made.

The Company will hold Powers of Attorney and transact business as Agent, Trustee, Receiver, Executor, Administrator, Guardian, Treasurer and Assignee. Investment made for parties in Real Estate, Public Securities, Local Stocks and other property.
OFFICE HOURS—FROM 9 A. M. TO 4 P. M.

Trustees:

Henry H. Haight,	John Currey,
John H. Baird,	John O. Eldridge,
Henry Barroilhet,	William H. Sharp,
Frederick L. Castle,	Jacob C. Johnson,
Walter N. Hawley,	Charles J. Deering,
Donald McLennan,	Hiram Rosekrans,
Charles F. MacDermot,	Andrew J. Ogilvie,
Moses Rosenbaum,	Charles M. Plum,
Henry J. Booth,	Samuel Crim.
Chas. W. Hathaway,	Walter B. Cummings.

HENRY L. DAVIS, President.
CASHIER, D. W. C. THOMPSON. AUDITOR, THOMAS B. LUDLUM.

SWYNEY & SMITH,
MARINE ENGINEERS,
53 Montgomery Block, San Francisco,
Are prepared to furnish General Plans, Specifications, and full detail Drawings for propeller or side-wheel steamers, also for iron vessels of all classes, engines, boilers, etc. Also for locomotive or stationary engines, and machinery in general. An experience of over twenty years in this profession enables us to furnish correct drawings and guarantee results.
JOHN SWYNEY. 6v17-tf DAVID R. SMITH.

HELY & CUSICK,



PRACTICAL
HOUSE
AND
Ship Plumbers,
914 Market Street,
A few doors west of Stockton.

Bath Tubs,
Water Closets, Wash Basins and Gas Fixtures always on on hand. Buildings fitted up with
Gas, Water and Steam, in the most improved manner.
Particular attention paid to Jobbing. All work warranted one year. 13v16-1y

HAYWARD & COLEMAN,

IMPORTERS AND REFINERS
—OF—
Illuminating, Lubricating,
—AND—
PAINT OILS,
CONSISTING OF
KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS, NEATSFOOT, BOILED AND RAW LINSEED, CASTOR AND CHINA NUT.
—ALSO—
Spirits of Turpentine and Alcohol.

NOTE.—We would specially call the attention of Mill owners and Engineers to our superior PARAFFINE OIL, which we manufacture from the California Petroleum. This oil will not gum. Machinery thoroughly cleaned and lubricated with it will not heat, and after remaining at rest, can be started without cleaning off.

Lamps and Lamp Stock!

☞A sample can of our Paraffine Oil will be forwarded on application to us, as we desire a fair and impartial trial.
☞An elegant and complete assortment on hand.☜
5v17-tf. 414 Front street, San Francisco.

Fire and Marine.

Union Insurance Company,

OF SAN FRANCISCO.
Nos. 416 and 418 California Street.

Cash Capital (U. S. Coin).....$750,000

THE CALIFORNIA LLOYDS

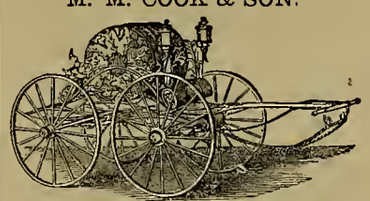
Having consolidated with the Union Insurance Company, January 1, 1866, are now prepared to effect
Marine as well as Fire Insurance,
upon the most favorable terms.
☞Losses promptly and equitably adjusted and paid in Gold Coin.
GUSTAVE TOUCHARD, President.
CHARLES D. HAVEN, Secretary.
GEO. T. BOWEN, Surveyor. 21v16-1amtf

Eley's Ammunition.



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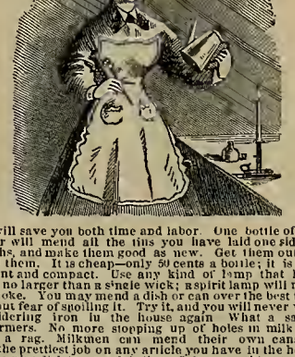
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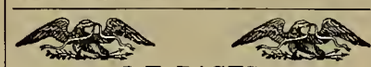
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CLASS II.

SEC. 1. *Machinery for Working Metals.*—R. P. Brunner, D B. Hinckley and John Lochhead.

SEC 2. *Machinery for Working Wood.*—D. A. McDonald, C W Thomas and Wm. N Miller.

SEC. 3. *Agricultural Machinery* —C. L. Low, Horatio Stebbins, W. C. Bartlett, Samuel Dinsmore and R. B. Woodward.

CLASS III

DIVISION 1. *Machinery for Mining, Tunneling, Metallurgical Processes, Crushers, Pulverizers, Amalgamators and Concentrators* —Wm Ashburner, Melville Atwood and James Brodie.

DIVISION 2 *Pumps, Hose Pipes, Nozzles, Pipe Couplings, Apparatus for Burning Petroleum and Steam Fuel.*—D. K Hayes, Charles Elliott and George Hogg.

CLASS IV.

Naval Architecture.—A. T. Fletcher, Captain Cox and A M. Westervelt.

CLASS V.

Military Engineering, Fire-Arms, Powder and Matches.—Major Elliott, Isaac Bluxome and J. J. Haley.

CLASS VI.

Civil Engineering and Architecture.—George Gordon, H Cleaveland and Col. Bulkley.

CLASS VII.

SEC. 1. *Philosophical and other Instruments.*—Sherman Day, Wm. Schmolz and Herman Shussler.

SEC. 2. *Surgical and Dental Instruments and Productions.*—Dr. James Blake, Dr. Austin and Dr. C. C. Knowles.

CLASS VIII.

Steel and Iron Manufactures.

SEC. 1. *Plain and Ornamental Goods, Stoves, Safes, Wrought Iron and Blacksmithing* —I. M Scott, Wm. McKibbin, Charles Steiger, J. R. Sims and J. G. Ills

SEC. 2. *Tools, Hardware, Cutlery, Locks and Wire Work.*—B F. Dunham, A. A. Louderback, W. S. Phelps, J. McGill and John Dixon.

SEC 3. *Castings of Brass, Tin, Lead and Compositions, and Brass Finishing* —J. M. Eckfelt, J. W. Brittan and W. W Montagne.

SEC. 4. *Copper Stills, Worms, Lead Pipes, Shot, Plumbing, Gas Fitting and Tin Ware.*—Melville Atwood, Thos. Day and W. S. Snooks

CLASS IX.

Glass, Pottery, Etc.—W. B. Ewer, James Harris, R. H. McDonald, N. P. Langland and Isaac E. Davis.

CLASS X.

Wood and Wood Work.—Jamca Easton, B. H Freeman, N. P Langland, Wm. Gunn, P. M. Bowen and T. F. Neagle.

CLASS XI.

Minerals.—W. B. Ewer, O. W. Easton and — Deetkin, of Grass Valley.

CLASS XII.

Chemistry and Chemical Substances—Comprising all chemical and pharmaceutical manufactures, as alkalies, acids, and all other manufactures and processes.—James Blake, D. C Bertody, Thomas Price, Archibald Cooper, and E. T. Martin.

CLASS XIII.

Jewelry, Silver and Plated Ware.—Robert C. Rogers, B. P. Avery, and Job M. Semans.

CLASS XIV.

Lithography, Engraving, Printing, Book-Binding, Paper, Type and Penmanship.—Jacob Bacon, J. J. Rey, E. Bosqui, H. H. Moore, and C. Beach.

CLASS XV

Carriages and Wagons.—H. M. Newhall, John W. Farrau, and H. W. Byington.

CLASS XVI.

Leather and Leather Work—Divided into three sections, as follows: Section One—Comprising harness and saudlery.—W. H. Baxter, J. B. Dorr, and Josiah Davis. Section Second—Boots and Shoes.—F. McCrellish, T. H. Hayes, and J. B. Roberts Section Three—Hose, trunks, valises, carpet bags, buckets, and fire caps —William Sherman, W. S. Phelps, and F. E. R. Whitney.

CLASS XVII.

Sign, House, and Carriage Painting.—Charles Hopps, Henry Keutzer, and Charles Nahl.

CLASS XVIII.

Furniture, Billiard Tables, Desks, and Upholstery; Including work for amusement.—James Easton, A Conrad, Charles M. Plum, George T. Grimes, J. O. Eldridge, E. S Spear.

CLASS XIX

Stone Cutting and Marble Work—Comprising imitation stone work, polishing powders, sculpture, etc.—Lewis Larsimer, F. Williams, William Pallen, Joseph Britain, B. B. Moreton.

CLASS XX.

Oil, Soap, and Candles.—R. H. McDonald, John Wigmore, J. R. Deane, William H. Swain, and L. B. Dell.

CLASS XXI.

SECTION ONE—*Painting and Drawing.*—M. S. Latham, B. P. Avery Noah Brooks, Robert C. Rogers, F. L. A. Pioche. Section Two—Photography.—J. J. Rey, J. H. Barry, J. R. Jarhoe, J. Mora Moss, J. B. Walmesford.

CLASS XXII.

Musical Instruments.—R. Herold. Carl Rosa, George Pettinos, Washington Elliott, and T. E. Grath.

CLASS XXIII.

Woolen and Cotton Manufactures.—Peter Thompson, Jonas Alder, A. Austin, C. J. Janson, William Sherman, H. N. Miller, F. Henderson.

CLASS XXIV.

Fur, Clothing, Hats and Caps.—W. T. Copeland, C. A. McNulty, —— Lockwood, —— Nickerson, —— Bridges.

CLASS XXV.

Silk and its Manufactures.—John C. Whiteman, George Huntsmann, L. Sachs.

CLASS XXVI.

Sewing Machines and Needlework.—Mrs. Capt. Connor, Mrs. Henry Carlton, Mrs. P. Caduc, Mrs. H. M. Newhall, and Mrs. J. B Harmstead.

CLASS XXVII.

California Wines and Brandies.—C. A. McNulty, Ralph Emerson, Ogden Hoffman, J. Mora Moss, Henry Kenitzer, Dr. Carl Precht, A. J. Bryant.

CLASS XXVIII.

Horticulture, Agriculture, etc.—Peter Gilmore, H. K. Cummings, C. J. Pilsbury, D. S. Graves, and Nathaniel Gray.

The Committee on Classes Twenty-nine and Thirty, the first being on substances used for food and the latter on miscellaneous articles, were not appointed in time for the present issue.

"WE STILL LIVE," say the proprietors of the Standard Soap Company's Washing Powder; and those families who use it hope they will live to reap a full reward for the useful invention, and live many years after to enjoy their good fortune. Only a few years ago washing was really a dreadful thing in almost every household, but with such modern appliances of washing-powders and clothes-ringers, the drudgery of washing has been essentially played out. There are, however, a few families who still adhere to the old method. To such we say try the Staudard Washiug Powder, and be the slaves of useless labor no more.

LET HOME INDUSTRY BE PATRONIZED.—The San Francisco Brush Factory, Sacramento street, was established about 18 months ago. At that time, we well remember, the proprictors hoped to he ahle to turn out some 200 dozen brushes per month of a better quality and at lower rates than the imported. Jndging from their fine display in the Fair, as well as at that large storerooms, they must have realized their most sanguine expectations. We here find hat brushes, blacking brushes, clothes brushes, scrubbing brushes, printers' brushes—brushes of all sizes, sorts and shapes, of every variety and made of all the different material used for such purposes. The fiber of the soap-root, which is found in great ahundance on this coast, has been called into requisition and turned to good account, more particularly as a scrubbing hrush. All who believe in encouraging home manufactures, (and who does not?) should hy all means give them a call.

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SULPHURETS;

What they are;
How Assayed;
How Concentrated;
And How Worked;

With a Chapter on the

BLOW-PIPE ASSAY OF MINERALS.

By WM. BARSTOW, M. D.

Published by A. Roman & Co., San Francisco.

For sale at this Office.--Price, One Dollar.

With the aid of this Book, the miner can assay his own ores, requiring but few materials, etc., except such as are generally to be found in the interior towns. 21v15tf

ATTENTION.—Virginia City, Aug. 9th, 1868—Dewey & Co., San Francisco.—Gents:

The Patent, enclosing your favor with Inventor's certificate, etc., came duly to hand, and for which please accept my grateful acknowledgements.

I am pleased to learn that the business of your agency for Patents, etc., is rapidly increasing. This is as it should be. Your promptness, fidelity and skill, as Patent Agents, entitle you to public confidence and patronage.

I can see no good reason why Inventors on the Pacific Coast should employ agents in New York and other Eastern cities to transact their business at the Patent Office, when we have among us those equally qualified by long study and large experience.

Yours, truly, J. A. C.

Subscribe for the New Volume of the Mining and Scientific Press.

The proprictors of this jonrnal will undertake to make the Seventeenth Volume of the MINING AND SCIENTIFIC PRESS (commencing July 1st 1868), superior in many respects to former issues.

It will be printed on extra quality of paper, rendering it a handsome volume to file for future use.

An increased amount of editorial labor will be expended in the preparation of leading articles relating to the progress of scientific developments in various parts of the world; new discoveries in geology, mineralogy, metallurgy, and new processes and methods relating to mining in all its branches.

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Our mining summary and weekly stock report gives the latest news from the most important mines and mining districts throughout the Pacific States and Territories.

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The latest prices of stocks are quoted; also the produce and market rates, metal market and prices of copper ores.

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And all other Blanks, Blank Books, etc., required by Mining and other Corporations, kept on hand or printed to order on short notice, at moderate prices, at the office of the *Mining and Scientific Press.*

New Mining Advertisements.

Golden Rule Mining Company, Tuolumne County, California.

San Francisco, August 23, 1868.—Regular dividend (No 15) of the Golden Rule Mining Company, of Tuolumne County, Cal., was this day declared, of 2½ per cent. per month on the paid-in capital stock, amounting to fifty cents per share—payable on and after the 26th inst.

J. B. RUSSELL, Secretary.

Superintendent of Mine, A. S. PRIFER.
President, W. T. BOSWORTH. au29

I. X. L. Gold and Silver Mining Company.—Location of Mine: Silver Mountain District, Alpine County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twentieth day of of August, 1868, an assessment of one dollar and fifty cents ($1.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, Pioneer Hall, Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the nineteenth day of September, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the seventh day of October, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. CROWNINSHIELD, Secretary.

Office, Pioneer Hall, Montgomery street, up stairs, San Francisco. au29

Mining Notices---Continued.

Chalk Mountain Blue Gravel Company.—Location of Works: Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventeenth day of August, 1868, an assessment of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary

Any stock upon which said assessment shall remain unpaid on the twenty third day of September, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twelfth day of October, 1868 to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M BUFFINGTON, Secretary.

Office, 37 New Merchants' Exchange, California street, San Francisco. au22

Chipioneta Mining Company.—District of Ures, Sonora, Mexico.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the ninth day of July, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Buzzolini, D.	11	30	$150 00
Buzzolini, B.	72	4	20 00
Chevereth, E.	22	1	5 00
Ghirardelli, D.	23	29	145 00
Ghirardelli, B.	72	91	450 00
Ghirardelli, B.	75	20	100 00
Mosheimer, Jos.	86	25	125 00
Mosheimer, Jos.	87	26	130 00
Smith, R.	86	5	25 00
Quin, Thos	85	5	25 00

And in accordance with law, and an order of the Board of Trustees, made on the ninth day of July, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by John Middleton & Son, No. 310 Montgomery street, San Francisco, California, on Monday, the thirty-first day of August, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN F. LOHSE, Secretary.

Office, 318 California street, up-stairs, San Francisco. au15

Office of the Folsom Street and Fort Point Railroad and Tunnel Company, southwest corner of Montgomery and California streets, Room No. 16, San Francisco.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-eighth day of July, 1868, an assessment of five dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to Caleb T. Fay, Esq., at the office of the Company.

Any shares of stock upon which said assessment shall remain unpaid on the twenty ninth day of August, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fourteenth day of September, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

aul JOS. M WOOD, Secretary.

Hope Gravel Mining Company. Location of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of July, 1868, an assessment (No. 25) of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at his office, No. 523 Kearny street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on Thursday, the tenth day of September, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fifth (5th) day of October, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary.

Office, No. 523 Kearny street, corner of Sacramento, San Francisco, California. Office hours from 12 to 2 P. M. aul

I. X. L. Gold and Silver Mining Company.—Location of Mine: Silver Mountain District, Alpina County, California.

NOTICE.—The Annual Meeting of the stockholders of the I. X. L. Gold and Silver Mining Company, for the purpose of electing Trustees for the ensuing year, will be held at the office of the Company, Pioneer Hall, Montgomery street, San Francisco, Cal., on THURSDAY, September tenth, 1868, at 2 P. M.

au15 J. CROWNINSHIELD, Secretary.

Kearsarge Mining Company, Kearsarge District, Inyo County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of August, 1868, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 408 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the fourth day of September, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-first day of September, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINGARD, Secretary.

Office, 408 California street, San Francisco. au8

Rattlesnake Gold and Silver Mining Company, Brown's Valley, Yuba County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventh day of August, 1868, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, 318 California street, up stairs, San Francisco.

Any stock upon which said assessment shall remain unpaid on the tenth (10th) day of September, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-eighth day of September, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary.

Office, 318 California street, San Francisco, Cal. au8

Silver Sprout Mining Company.—Location of Works and Mines: Kearsarge District, Inyo county, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of August, 1868, an assessment of thirty dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, 408 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the fourth day of September, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty first day of September, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T B WINGARD, Secretary.

Office, 408 California street, San Francisco. au8

Office of the Silver Sprout Mining Company, San Francisco, August 4th, 1868.

STOCKHOLDER'S NOTICE.—In accordance with a resolution adopted at a meeting of the Board of Trustees of the Silver Sprout Mining Company, held this day, a special meeting of the Company is hereby called, the same to be held at the office of said Company, No. 408 California street, San Francisco, California, on Monday, the thirty-first day of August, 1868, at one o'clock P. M., to take into consideration and decide upon the proposition to increase the capital stock of said company from two hundred and fifty thousand dollars, divided into two hundred and fifty shares of one thousand dollars par value each, the present capital stock of the Company, to three million five hundred thousand dollars, to be divided into five thousand shares of seven hundred dollars par value each.

NATHANIEL PAGE,
A WINGARD,
E. B. MOTT, Jr. } Trustees.

au8 1m

Machinery.

VARNEY'S
PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setters made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setters for themselves, at the **PACIFIC FOUNDRY,**

1v1 San Francisco.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,

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Notice to Miners,
Well-Borers and Water Companies.

M. PRAO IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG,

8v13-1y Stove Store, No. 125 Clay street, below Davis.



REMOVAL.

E. O. HUNT'S

Manufactory of

Windmills, Horse-Powers and Pumps,

Has been removed from the old stand on Second street, to

114 and 116 Spear st.,

Next above Stuart and south of Missiou st., San Francisco.

Hunt's Patent Wind-Mills, Tread Horse-Powers, Sweep Horse-Powers, (for one or four horses), Sawing Machines, Pumps of all kinds for shallow or deep wells,—including Hunt's Submerged Pump, Hunt's Globe Pump, and Hunt's Single and Double-Acting Pump. Pumping Machines and general Machinery kept constantly on hand and built to order.

Also, Water Tanks of all sizes.

Having put up large new buildings specially for my business, with greatly increased facilities in the way of room and steam power, I shall be able to build everything in my line at greatly reduced rates.

All desirous of procuring water for irrigating or other purposes, are invited to examine my articles before purchasing elsewhere.

23v16 **E. O. HUNT, Proprietor.**

OIL STOVES!

MORRILL'S

Petroleum and Universal Oil Stoves

Have proved themselves a superior substitute for Wood and Coal Stoves, in that they work quicker, are neater, bake and broil better, are MORE ECONOMICAL generally. They are portable, can be used in any room, with or without chimney, as they emit no smoke, soot or ashes. There are nine different sizes, designed for barbers, dentists, and other mechanical purposes—as well as for cooking. They are perfectly safe.

I now offer a reward of **$100** for every Petroleum Stove exploded by Naphtha delivered at my store, 18 Geary street, where they are for sale by

M. B. BULLARD,

Proprietor of Petroleum Stove for California, and Agent for Universal Oil Stove for Pacific Coast.

N. B.—Petroleum Stoves burn Naphtha converted into a gas. Universal Oil Stoves burn Naphtha, Benzine, or Coal Oil, with non-illuminating flame and light on a wick as easy as a lamp. 2tv16 3m

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Pure Lard Oil,

SPERM OIL, PARAFFINE OIL, Etc., Etc.

EXCELSIOR MACHINE OIL,

The Best in use.

A. C. DIETZ & CO., Sole Agents

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22v16-3m

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21v16tf JOHN J. FULTON.

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STEERING WHEELS

ON HAND AND MADE TO ORDER.

☞**JOB WORK** done to order, at the shortest notice. Main street, between Folsom and Harrison,

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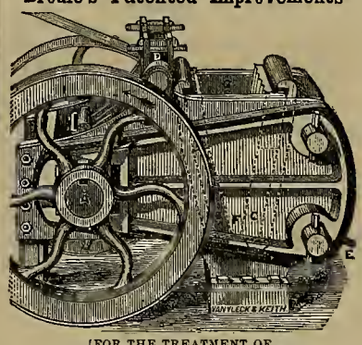
Stone Cutters', Blacksmiths' and Horse-Shoers' Tools,

319 and 321 Pine Street,

Between Montgomery and Sansome, San Francisco.

10v14qr

Brodie's Patented Improvements



FOR THE TREATMENT OF

Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:

No. 1—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price..... **$600**

No. 2—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour..... **850**

No. 3—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour..... **1,200**

These Crushers have been erected at several mines in the State of Nevada, and others in Calaveras, Tuolumne and Mariposa counties, to whom applicants can be referred as being the most efficient, cheapest, and least weight compatible with strength and durability, of any Crusher yet erected.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.

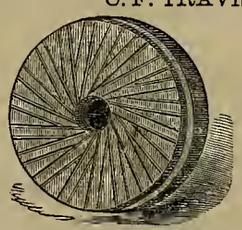
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Mill-Stones,

AND

PORTABLE

MILLS.

—

Agent for

Dufour & Co's

Celebrated

DUTCH ANCHOR BOLTING CLOTHS.

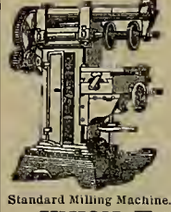
Mill Picks, Mill Picks Dressed, Mill-Stones Repaired and Rebuilt; Mill-Stones Balanced with Felienbaum's Patent Balance, of which I am sole Proprietor for California, Oregon, and Washington Territory. C. F. TRAVIS,

5v16tf 109 Mission street, San Francisco.

Belting and Lacing.

AN ENTIRELY NEW AND SUPERIOR ARTICLE OF exclusively mechanical preparation, made to order on short notice, and for sale by H. ROYER, at 435 Brannan street, between Third and Fourth. Refers to Eisen Bros., Pioneer Mills; Martin Steen, National Mills; Horace Davis, Golden Gate Mills; also, N. W. Spaulding, Saw Manufacturer. 6v16-3m

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Standard Milling Machine.



Pipe Vise, with or without Extra Jaw.

UNION VISE COMPANY,

OF BOSTON,

Make Vises of all sizes and kinds, for Machinists, Blacksmiths, and all other heavy mechanical work. Wood-workers' and other Vices, with Covered Screw, for general mechanical work. Standard Milling Machines, very simple and easily adjusted. Address, Boston, Mass. 23v16-1y

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GLASGOW
Iron and Metal Importing Company,

Nos. 25 and 27 Fremont street,

SAN FRANCISCO,

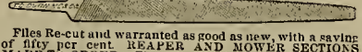
Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings which they offer to the trade on liberal terms.

21v16-3m W. McCRINDLE, Manage.

PACIFIC FILE WORKS,

No. 53 Beale Street, bet. Market and Mission,

SAN FRANCISCO.



Files Re-cut and warranted as good as new, with a saving of fifty per cent. REAPER AND MOWER SECTIONS MADE TO ORDER. The only establishment on the Coast. Orders from the country promptly attended to. ☞ First Premium awarded at the State Fair, 1867.

2v17-3m **T. G. DURNING & CO.**

PACIFIC PLATE WORKS,

520 SANSOME STREET,

NOW IN FULL OPERATION,

Offer their WARES, for the first time, to the inspection of the public, and claim for them a position EQUAL to those of FIRST CLASS Eastern Manufacture.

THE STAMP,

Pacific Plate Works,

Will be found

Upon Every Article Issued,

And will be a Guarantee of the Quality.

The basis upon which the plating is done will in all case, be either NICKEL SILVER or WHITE METAL.

A regular STANDARD OF PLATE has been adopted, which will be strictly adhered to, and the wares will be found, upon trial, equal to Sheffield plate.

The SAMPLES of our Manufacture to be seen in the ARTIST'S GALLERY of the

MECHANIC'S FAIR,

Will afford the public an opportunity of deciding upon the claims of the PACIFIC PLATE WORKS to the patronage of the friends to

CALIFORNIA ENTERPRISE.

The assortment, now quite large, comprises a variety of

Table Casters,
Hot Water Urns,
Napkin Rings,
Ice Pitchers,
Ice Bowls,
Tea Sets,
Waiters,
Coffee Urns,
Knives,
Forks,
Spoons,
&c., &c.,

To which frequent additions will be made, until the assortment shall be equal to the requirements of the trade of the Pacific Coast.

In addition to keeping on hand a large assortment of

STAPLE GOODS,

For the Trade, the PACIFIC PLATE WORKS will receive

FOR REPLATING

Articles from which the silver has been worn by use, and will give especial attention to the plating of Builders' and Plumbers' Hardware.

HAYNES & LAWTON,

Agent for the Pacific Plate Works.

Haynes & Lawton,

THE OLDEST ESTABLISHED

CROCKERY HOUSE

IN CALIFORNIA,

Offer to the inspection of the Public the largest and best selected Stock of

ENGLISH EARTHENWARE,

FRENCH PORCELAIN,

American & French Glassware,

Ivory Handle Table Cutlery,

ELEGANTLY DECORATED

DINNER, TEA, DESSERT & TOILET SETS

Ever Exhibited on this Coast,

At their Spacious Warerooms, Nos. 516, 518, 520, 522,

Sansome street, San Francisco.

QUARTZ MILLS.

The Pacific Plate Works

Are ready to fill all orders which may be addressed to them for the SILVER PLATING of COPPER BATTERY PLATES.

HAYNES & LAWTON, Agents,

Sansome street, San Francisco

SHEM AT THE FAIR. — The children of our ancient uncle—the Chinamen—are beginning to visit the Fair pretty numerously. It cannot be denied that those who go there are very decent-looking bodies, and that they seem to appreciate matters and things about as well as anybody else. The character of the articles most interesting to them is suggestive to observe. A pen drawing of St. George and the Dragon detained one of them for a long time, whilst a whole group of them were seen discussing the merits of Liddell & Kaeding's fishing tackle.

American Saw Company.



MANUFACTURERS OF

EMERSON'S PATENT

Movable-Tooth and Perforated Circular Saws,

Perforated Mulay, Mill and Cross-Cut Saws, with Adjustable Sockets.

SAW-GUMMERS, SWAGES, CANT DOGS,

Etc., have established an office for the sale of the above articles, at

No. 606 Front street, San Francisco.

☞Descriptive Pamphlets will be forwarded to any one giving us their address. 5v17tf

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To Inventors.

The undersigned is now prepared to assist inventors or others by manufacturing Models for the Patent Office, large working Machines or Devices of every description, in Metal or Wood, in the most workmanlike manner and at reasonable rates. Also, Patterns for Iron and Brass Work and all kinds of Machinery.

Having had ten years practical experience in this city, parties can be assured all work entrusted to me will be executed in a prompt and satisfactory manner. Power will be granted to parties wishing to test or experiment with machinery.

☞Full files of the Patent Office Reports for the use of patrons. **J. H. CULVER,**

3v17-3m **20** Fremont street, over Phœnix Iron Works.



STOVES

AND

TIN WARE,

WOODEN WARE

WILLOW

WARE,

BIRD CAGES,

Etc., Etc.



Lock's Patent Self-Lighting Gas-Burners, by

GEO. H. CHICK,

At 834 Market street, San Francisco.

24v16 3m

HO TEAMSTERS!

CONTINUE TO

USE HUCKS & LAMBERT'S

CELEBRATED

H & L Axle Grease,

To which you have given so decided a preference for the last

FOURTEEN YEARS,

It is the only reliable article

IN THE MARKET

Every care will continue to be used to sustain the high reputation the H & L Axle Grease, has so long and justly attained.

☞Be sure and ask for the H & L brand, and see that the

TRADE MARK H & L

IS ON THE COVER OF THE PACKAGE

NONE OTHER IS GENUINE.

FOR SALE IN EVERY STATE IN THE UNION.

FOURTEEN YEARS' EXPERIENCE has proven to all who have tried it the superiority of Hucks and Lamberts's Axle Grease, the trade mark of which has become familiar as a household word wherever man rides or wagons run. Like its inventor, it is a thorough-going article—the same thing every time. No imitation has yet approached it, though its extensive sale has induced many attempts in that direction. Its first appearance was hailed with joy by teamsters everywhere, and its continued and universal use would seem to indicate it to be their "joy forever."

TRUEWORTHY.—Like his namesake who "figures" so familiarly in the old school-books, our whilom friend, F. M. Trueworthy, the cutter of stencils and brands, is always an exact man, and when entrusted with a job, its excellence always gives satisfaction for the price you pay. We do not know that his charges are higher or lower than others, but we speak of his work as an admirer of chaste exections in lettering of all kinds.

BUERK'S

Watchman's Time Detector.

THIS WATCH-CLOCK WAS INTROOUCED TO THE public in almost every section of the United States and Canada about five years ago, and it has proved itself to be the best invention in the world for testing the faithfulness of Watchmen. Since its introduction, the Proprietor has improved on some parts, and corrected deficiencies and he has now

A Perfect Check upon the Watchman.

With other Clocks, a regular routine has to be followed, but with this a Watchman can be ordered to visit any particular place as often as required, without being compelled to go to places where it is not necessary to visit as often.

The instrument is complete in itself, portable, and as reliable as the best lever watch

It is not so likely to become disarranged in its works as a good watch, because its parts are stronger. But when it needs cleaning, any common watchmaker can adjust it, its mechanism being simple. It requires no fixtures or wires communicating from room to room, as is the case with the ordinary Watch-Clocks: a small, inexpensive stationary key is alone required at each station By its use places can be guarded that it would be impossible to guard with any other instrument, such as Railroad Tunnels, Bridges, Yards, Shops, etc. The instrument will in all cases be warranted perfect and satisfactory. Its price is invariably *Seventy-five Dollars*, cash on delivery, including as many keys as are requisite, not exceeding twelve.

THIS WATCH-CLOCK IS SOLO AT A LESS PRICE THAN ANY OTHER IN THE MARKET.

The OETECTOR is used extensively by large Manufacturing Establishments and Railroad Companies in the United States, from whom numerous testimonials have been received.

☞This Detector is covered by two U. S patents. Parties using or selling these instruments without authority from me will be dealt with according to law.

N. B.—Parties purchasing these clocks should test them sufficiently in the counting-room or office, as they will not be taken back after having been injured by the Watchman through carelessness.

All communications promptly attended to. Address

J. E. BUERK, Proprietor,
47 Congress street, Boston.

P. O. Box, No. 1057. 23v16-6m

SQUARZA'S PUNCHES

—AT THE—

MECHANICS' INSTITUTE FAIR.

CHALLENGE

To all Punch Manufacturers

IN THIS STATE FOR

ONE THOUSAND DOLLARS

That the Punches manufactured by the undersigned are of better material, better made, and of superior flavor to any Punches that are fabricated on this coast.

The Punches of Squarza are world-renowned, and have been distinguished by receiving THIRTEEN PREMIUMS at the different Fairs in this State. The following is a list of the Celebrated and Favorite.

Squarza's Punches and Cordials

which will be on exhibition at the Mechanics' Institute Fair, where visitors from the interior can try the various brands:

Welcome,	Strawberry,	Mint,
Jamaica Rum,	Pisco,	Anise,
Cognac,	Appetizer,	Blackberries,
Arrack,	Anti-Dyspeptic,	Rose,
Kirschwasser,	Roman,	Kiminel,
Gin,	Nectar,	Pus Coffee,
Whisky,	Ladies' Tears,	Kirsch
Cocoa,	Anti-Divorce,	Ladies' Pleasure,
Coffee,	Aurora,	Morning Comfort,
Tea,	Farewell,	
	Pine Apple,	

In addition to the above well known beverages, the undersigned has the pleasure of introducing for the first time

THE ECG NOG PUNCH,

A drink with all the flavor and invigorating qualities of this popular decoction, which can be bottled and kept like any other Punch. Also the

LADIES' FAVORITE,

A mild and highly-flavored Cordial for the Ladies; both of which are preparations by Squarza.

There will also be on exhibition the celebrated brands of Bitters made by Squarza—the

Hygienic Bitters, Cholera Antidote, Agusturo, Seisner.

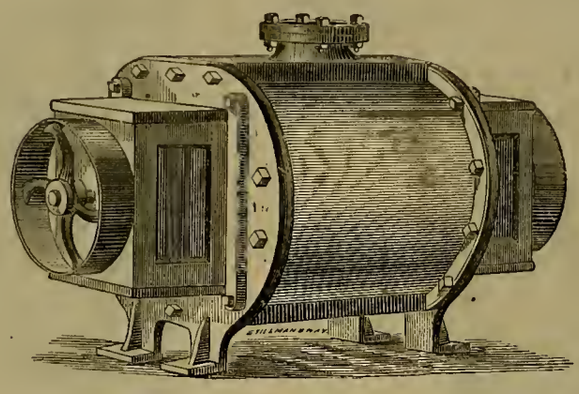
All these liqueurs have ripened and mellowed with age, having been manufactured from five to seven years ago by Squarza himself.

A. BONA,
Successor to V. Squarza,
National Manufactory, 120 Leidesdorff street,
Bet Sacramento and California, opp. What Cheer House

ROOT'S PATENT FORCE BLAST ROTARY BLOWER.

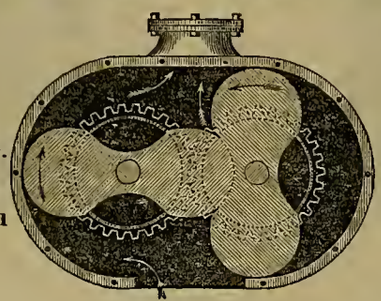
Patented Nov. 1st, 1864; July 24, 1866; and Oct. 9, 1866.

Awarded the First Premium at the Paris Exposition.



ADAPTED FOR

Smelting,
Foundry,
Mining
and
Steamships.



REQUIRES

Fifty Per Cent.

LESS POWER

Than any Blower

now in use.

One of these Blowers may be seen on exhibition at W. T. Garratt's Brass Foundry, corner of Mission und Fremont streets. They are also in use at the Almaden Quicksilver mine; Gridley's Foundry, Gold Hill, Nevada; Ætna Iron Works, San Francisco, and many other places.

CAUTION.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.

For Circulars and further information, address

KEEP, BLAKE & CO.,
Globe Iron Works, Stockton, Cal.

4v16 3m

HUNGERFORD'S IMPROVED CONCENTRATOR,

For Saving Gold, Sulphurets, Quicksilver, etc.

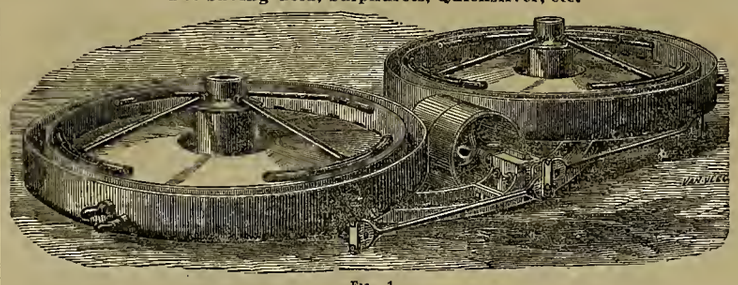


FIG. 1.

There is no description of machinery of so much importance to the mining interests of California, at the present time, as that for the separation of sulphurets. Many machines have been tried, and abandoned; and none seems to meet the requirement of the mining interest so well as that now patented by Mr. Hungerford, which is an improvement on the well known Hungerford & Prater Concentrator, with which his name is already so familiar.

Fig. 1 is a perspective view of that pan as now constructed. For economy of space and machinery, one shaft is made to drive two pans, which are set and arranged as shown in the engraving.

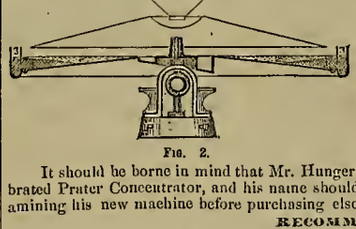


FIG. 2.

Fig 2 is a section through the center of the pan, showing how it operates in separating the sulphurets, as well as the great improvement to the pan, which consists of the addition of a circular trough outside the periphery.

A full description of the principle and mode of action of this pan, is described in circulars, which will be forwarded to any party who may desire them.

It should be borne in mind that Mr. Hungerford is the original builder and maker of the celebrated Prater Concentrator, and his name should be sufficient guarantee to warrant the public in examining his new machine before purchasing elsewhere.

RECOMMENDATIONS:

NEWCASTLE, Cal., June 21, 1868.

M. HUNGERFORD, ESQ.—*Dear Sir:*—Having used eight of your improved Concentrators (built by Goss & Lambard, of Sacramento), it affords me pleasure to hear testimony to their efficiency and adaptation to the purposes for which they are designed. I have used various styles of Concentrators during the last five years, but have found nothing that begins to compare with your machine, for durability and thorough concentration; and I can confidently recommend them to millmen, being, in my opinion, the best Concentrator now in use. Yours truly,

J. C. COREY.

NEWCASTLE, Placer County, Cal., June 23, 1868.

Mr. MORGAN HUNGERFORD, ESQ.—*Dear Sir:*—After witnessing the operation of eight of your Concentrators for a month, in the Golden Rule mill, Placer County, and running the same number in the Mt. Pleasant mill, El Dorado County, I am satisfied they are superior, as Concentrators, and more durable and less liable to get out of order, than any Concentraters I have seen; and I recommend them to millmen, feeling assured they will, after the most thorough trial, be pleased with them.

Very respectfully,

L. E. ATCHISON, Metallurgist.

BIG OAK FLAT, May 23, 1868.—*Mr. Thos. Mulford*—Dear Sir:—I have used two of Mr. Hungerford's Concentrators in the Rattlesnake Quartz Mill, at this place, and find that they work full as well as they are represented to do.

E. M. SMITH, Supt.

These Pans can be seen at the Pioneer Mills, entrance on Stephenson street, San Francisco.

In future these Pans will be manufactured exclusively by GOSS & LAMBARD, of Sacramento, which is a guarantee that they will be built in the most substantial manner. Price, $300

Address, Goss & Lambard, Sacramento, or M. HUNGERFORD, San Francisco.

Metallurgy.

KUSTEL & HOFMANN,

Metallurgists and Assayers.

Gold and Silver Bullion Assayed.

MINERAL ASSAYS & ANALYSIS MADE.

611 Commercial Street, San Francisco.

SILVER AND GOLD ORES worked in small lots up to hundred pounds, by Chlorination and other methods. 18v16-tf

R. TAYLOR WM. H. TAYLOR.

ROBERT TAYLOR & CO.,

METALLURGISTS.

SMELTING WORKS,
Corner Folsom and Eleventh streets.

SIMMONS, ROWE & CO., Agents
Corner Pine and Sansome Streets, San Francisco.

GALVANIZING.

Also, Antifriction, Alloys for Journals, Type and Stamping Metals, Tinners' and Plumbers' Solder, etc., etc.

☞The best price given for the most rebellious or refractory ores. Ores and minerals assayed and analyzed. 22v16-tf

J. H. TIEMANN,

Mining Engineer and Metallurgist,

240 Pearl street, New York,
—AND—
CENTRAL CITY, COLORADO.
18v12-1y

JOHN TAYLOR & CO.

IMPORTERS,

AND DEALERS IN

ASSAYERS' MATERIALS,

Druggists' & Chemists' Glassware

Photographic Stock, Etc.

512 and 514 Washington Street,

SAN FRANCISCO.

WE are receiving direct from MESSRS. LAOO & OERTLING (London) and BEEKER & SONS (Antwarp, Belgium) their superior

ASSAY AND BULLION BALANCES,

And from France and Germany, as well as the Eastern States, FURNACES, CRUCIBLES, MUFFLES, BLOW-PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, etc. We have given this branch of our business particular attention, to select such articles as are necessary in the development of the mineral wealth of this coast.

A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' SUNDRIES, ACIDS and CHEMICALS, constantly on hand.

San Francisco March 6, 1865. 11v10-tf

PROF. HENRY WURTZ,

Formerly Chemical Examiner in the U. S. Patent Office, may be employed professionally as a SCIENTIFIC EXPERT. Geological Examinations and Reports, Analysis and Assays, etc., etc. Practical advice and investigations in the Chemical Arts and Manufactures. Invention and examination of new chemical methods and products. Address, 26 Pine street, Rooms 35 and 36, New York. Always in from 12 to 3.30. ☞Written communications preferred.

Important to Gold and Silver Miners and Companies.

PROFESSOR WURTZ,

Who is the Inventor and Patentee of the new and wonderful uses of SODIUM IN WORKING GOLO AND SILVER ORES AND JEWELERS' SWEEPINGS, will furnish at the above address information in relation thereto, together with experimental packages of

SODIUM AMALGAM.

All instructions and experiments elsewhere obtained are spurious and unreliable. WORKING EXPERIMENTS ON AMALGAMATION OF ORES, Etc. Prof. W. has in operation in New York a large and small Hepburn Pan, for working 1,000 or 20-lb. charges of material for experimental purposes. 3v17

G. W. STRONG,

ASSAYER AND WORKER OF ORES,

UNION FOUNDRY,

Corner First and Mission streets, San Francisco.

Highest price paid for choice lots of Ores, Sulphurets, Assay Ashes, Sweepings, etc., etc. Students instructed in all branches of Metallurgy, on liberal terms. 14v15qr.

JOHN PERRY,

MANUFACTURER OF

Cocoanut Matting, Rugs, Mats, Etc.

And Cocoannt Fiber for Upholstery.

South side Chestnut street, bet. Polk and Larkin streets,

SAN FRANCISCO.

BY A PROCESS ENTIRELY NEW, THE PROPRIETOR is now manufacturing in quantity sufficient to supply the demands of the trade, A NEW AND SUPERIOR MATERIAL FROM THE FIBER OF THE COCOANUT—the best substitute for curled hair hitherto discovered—for mattresses, chairs, lounges, and all upholstering purposes. The following are some of the advantages which it possesses over all other materials used for the above named purpose:

1st. It is cheaper, all things considered, than most articles in use.

2d. It is the best and purest material known in the market, being entirely free from all offensive smell.

3d. It is the most durable, not being subject to rot after years of exposure to moisture and dampness.

4th. It is remarkable for its elasticity, rivaling, in this respect, the finest curled hair.

5th. It contains nothing to breed vermin or support insect life, being entirely freed in process of preparation from all deleterious vegetable matter.

Lastly. It does not pack; is free from dust; much lighter, and in general obviates all the objections to pulu, prepared shavings, soap root, and other inferior substitutes for feathers and hair. 22v166m

$100 A MONTH SALARY WILL BE PAID FOR Agents, male or female, in a new, pleasant, permanent business. Full particulars FREE by return mail, of sample, retailing at $4 50, for 50 cents. A. D. BOWMAN & CO., No. 4 Broad street, New York.

[Cut out and return this notice. 6v17 7t

Gold Mining--Quicksilver vs. Melted Zinc.

Successful gold mining comprises the possession of sufficiently rich gold quartz to pay for extraction and working, and the ability to extract the gold from the quartz economically and perfectly, in as few operations, and with as simple machinery, as possible, requiring the presence of only such conditions as are anywhere at hand.

When we fairly examine the retentive faculty of quicksilver for gold, we find it very limited, indeed;—that the affinity acts only on the perfectly pure surface of both—a minority of cases in reality—and that a reduction in temperature so greatly reduces the affinity, that it hardly exists below a temperature of 42° Fah. The result is that, on an average, only one half, or thereabout, of the gold is extracted by quicksilver from the ore; the rest is either carried away as float-gold, by the water required for the batteries, or remains in the tailings. This fact, known to every intelligent operator, should alone be sufficient to point out the imperative necessity of devising other extracting agents for that great majority of ore, containing more than $20 to $25 per ton; but not rich enough to leave a profit by direct chlorination. Concentration of the sulphurets, for chlorination, involves at best a great loss in float-gold. Many localities, with rich quartz veins, have insufficient water for batteries within convenient distance, and for the greater part of the year the ore has to be hauled long distances, with heavy expenditure, to a mill-site with water, or the mine must be abandoned and lie idle.

The case therefore stands thus: What is required, is an extracting agent, that does the work complete, cheapor than chloride, and requiring no water to reduce the ore, except such as is needed for the engine.

Zinc, of all substances in existence—chloride not excepted—has the greatest affinity to gold. Its action, in a melted state, on gold, is to instantaneously dissolve the same in any proportion. Its specific gravity—about 7—is sufficiently high to float all debris, not excepting sulphurets of iron, the constant companion of gold. It melts ot a comparatively low temperature, and requires but little heat to retain its melted state. It is sufficiently volatile to permit of retorting, as in the use of quicksilver, but by a covered surface and a temperature helow a dark-red heat, the loss by volatilization and hurning is hardly appreciahle, while the metal is obtained at a low price and in any quantity required. Thus we have in *zinc* a material manageable and fulfilling the conditions required of a gold-extracting agent in a high degree—higher than any other known.

The mode of applying it for this purpose was patented, April 7th, 1868, by the undersigned, for many years engaged in gold mining. It consists simply in gradually introducing the gold-bearing pulverized substance, below the surface, into a bath of melted zinc, which will immediately attack and dissolve nearly or every particle of gold, while the debris rises to the surface to he taken off. The mechanism is very simple and durable. Should sulphurets, in which particles of gold are so firmly imbedded as not to offer any contact even on the smallest point, prevent the extraction to such a degree, that it will pay to work it over by conceutration, roasting and chlorination, it may be done. But all the gold, in another manner lost as float-gold, and much more, is certainly already saved by the zinc. Dry crushers to be used iu preference.

Millions of tons of tailings, now worthless waste, might thus be worked profitahly, and thousands of good mines not capable of profitable working by amalgamation or chlorination, could be made to yield fair profits. Millions of dollars annually would thus be saved to the country. Gold mining throughout the country languishes for the want of such a radical improvement. The additional cost of extraction by zinc may he stated as about $8 to $12 per ton, or less than half of chlorination, while it does the work fully or nearly as effectually, certainly infinitely quicker. R. D'Heureuse.

Iron Work for the Pacific Railroad. The entire capacity of the Pacific Rolliog Mills is taxed to execute the orders for the Pacific Railroad. The two sets of rollers are in full operatiou maiuly on long and short screw bolts for car work. It is found that the mill can turn out a good quality of work at satisfactory prices. A large set of rollers for railway bars have arrived from Birmingham, England, weighing about 4,500 pounds each. The demand for heavy iron work is worthy of note. It appears that the new industry was not ahead of the times.

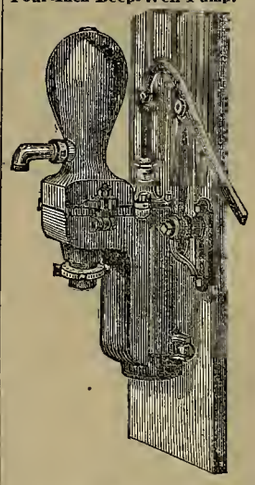
HANSBROW'S CHALLENGE

Deep-Well, Mining and Double-Cylinder Patent Pumps.

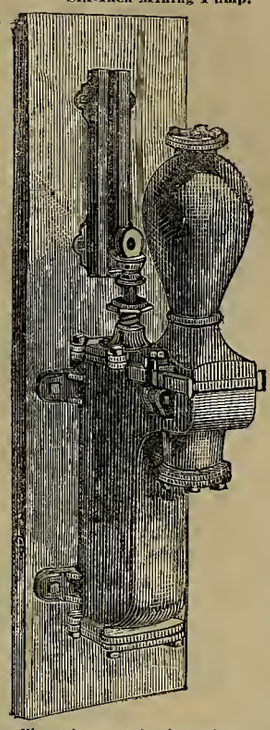
These Pumps combine all the advantages of the common Lift and the Double-Acting Suction and Force Pumps, and are equally fitted for all—Household, Farm, Mill, Manufactory, Brewery, Ship, Railway, Mining, and other purposes, and are especially recommended on account of their lightness, compactness, durability, cheapness, and the facility with which they can be placed in any position.

They are adapted for Hand, Steam, Horse, Water, or Wind Power. They are more durable in all their parts than any other Pumps of the same power.

Four-Inch Deep-Well Pump.



Six-Inch Mining Pump.



The Valves are of the simplest construction, and can be readily taken out by loosening two common nuts. They are not liable to get out of order, and can at all times be removed without the aid of a skillful mechanic.

The lower valves of these Pumps work upon inclined seats, which prevents sand or other matter that the Pumps may take up, from remaining under the valves, or stopping the flow of water.

These Pumps are worked with less friction, and consequently require less power than any other Double-Acting Pumps of equal capacity.

All sizes, from 2-inch to 8-inch Cylinder, manufactored by the Pacific Iron Works, GODDARD & CO., and for sale by the Agents,

LOCKE & MONTAGUE,

112 and 114 Battery Street, San Francisco.

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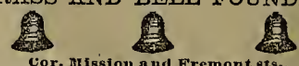
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TAVERN AND HAND BELLS AND GONGS,

FIRE ENGINES, FORCE AND LIFT PUMPS,

Steam, Liquor, Soda Oil, Water and Flange Cocks, and Valves of all descriptions, made and repaired. Hose and all other Joints, Spelter, Solder, and Copper Rivets, &c. Gauge Cocks, Cylinder Cocks, Oil Globes, Steam Whistles,

HYDRAULIC PIPES AND NOZZLES

For Mining purposes, Iron Steam Pipe furnished with Fittings, &c. Coupling Joints of all *sizes*. Particular attention paid to Distillery Work. Manufacturer of "Garratt's Patent Improved Journal Metal."

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Of Yale College, New Haven, Conn.

This department of Yale College, instituted in 1840, and endowed with the National Land Grant in 1866, furnishes advanced instruction in the various branches of Mathematical, Physical, and Natural Science.

The School is under the direction of the President of the College, a Board of thirteen Professors in different special ties, and six assistant instructors.

Regular courses of study, leading to the degree of Bachelor of Philosophy, conferred by Yale College, are arranged as follows: 1—Chemistry and Mineralogy. 2—Civil Engineering 3—Mechanical Engineering 4—Mining Engineering and Metallurgy. 5—Agriculture. 6—Natural History and Geology, and 7—Select Course.

Advanced students are also admitted to optional courses, and if already College graduates, are received as candidates for the degree of Doctor of Philosophy.

Tuition, $125 per year of forty weeks.

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For copies of the Annual Circular and Report, letters may be addressed to the "Secretary of the Sheffield Scientific School," New Haven, Conn. 13v6-1y16p

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THE CHEAPEST!

The extensive use of these Watches by Railway Conductors, Engineers and Expressmen, the most exacting class of watch wearers, has thoroughly demonstrated the strength, steadiness, durability and accuracy of the Waltham Watch. To satisfy that class in all these respects is to decide the question as to the real value of these timekeepers.

More than 300,000 are thus speaking for themselves in the pockets of the people.

Imported watches are made on an expensive system, in small numbers, but by numerous makers, and are placed in the market here by an importer, who first secures a

MONOPOLY OF SALE OF SOME ONE MANUFACTURE.

To the manufacturer's profit must be added the cost of importation.

A custom-house duty of twenty-five per cent. payable in gold.

A profit of at least twenty-five per cent. to the importer another to the jobber, thus doubling the cost of the Imported Watch.

At Waltham, Watches are manufactured on a large scale under one roof and system of supervision and management, thereby saving many of the expenses necessarily incurred in small establishments,—hence their great cheapness.

All respectable dealers now sell Waltham Watches, and competition, as the world knows, is favorable to small profits. The trade is satisfied, because, though the profit on each watch is small, the demand is large and all are saleable.

Unscrupulous importers occasionally place a worthless Swiss imitation in the market. To avoid imposition, the purchaser should invariably demand a certificate of genuineness, signed by R. E. Robbins.

There are different grades of finish in the different varieties of Watches made by the Waltham Company, as there are different sizes and shapes to suit all tastes and means; but every Watch that bears the genuine trade-mark of "Waltham," is guaranteed to be a good one, and nobody need be afraid to buy it.

Every Watch Fully Warranted.

For sale by all first-class dealers in the United States and British Provinces.

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W. E. LOOMIS,

News Dealer

AND STATIONER,

Southeast corner Sansome and Washington streets,

SUPPLIES ALL

EASTERN PERIODICALS

By the Year, Month or Number.

Mining Press.—This old standard mining journal of the Pacific Coast, comes to us this week, number 1 of Volume XVII, and much improved in several particulars. A beautiful new head and heading letters throughout, make it the neatest, as it has always been the best, exponent of the industries of this coast. Every miner should take the Press. The subscription price is $5 per year, and the Postmaster at Monitor is an authorized agent.—*Alpine Miner July 4th.*

MINING AND SCIENTIFIC PRESS.

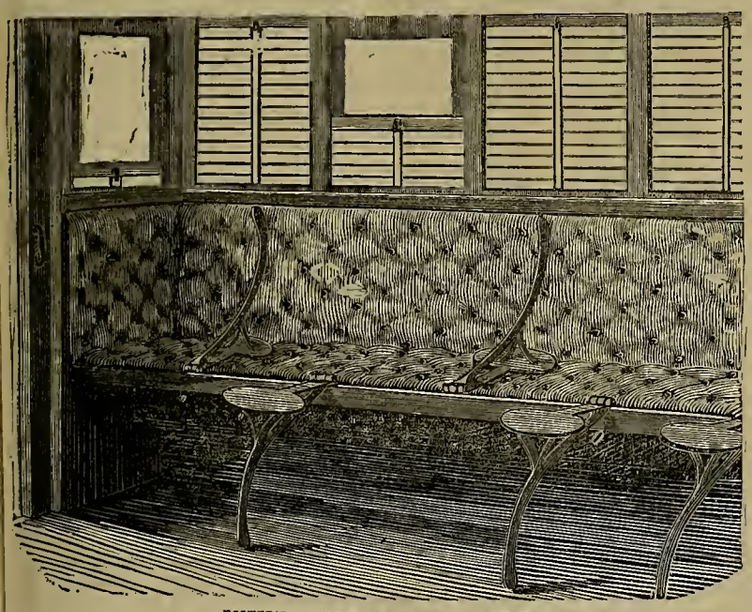
Subscription, $5 Per Annum. Single Copies, 15 Cents.

A Journal of Useful Arts, Science, and Mining and Mechanical Progress.

BY DEWEY & CO., Patent Solicitors. SAN FRANCISCO, SATURDAY, SEPTEMBER 5, 1868. VOLUME XVII. Number 10.

Folding Seats for Crowded Vehicles.

The accompanying illustration represents Charles H. Fosters' Folding Seat, for the accommodation of extra passengers, in crowded vehicles, for which he has applied for letters patent, through our agency. It is especially adapted to and ought to be generally applied in all city street cars, where its advantages are so obvious as to require but to be mentioned, in order to secure the warmest approval of everybody who is in the habit of using those public conveniences. The seats are first arranged and upholstered like those in ordinary use; then extra seats of brass or iron are attached to the outer edge by hinges. These additional or supplemental seats, when not in use, fold back bottom up upon the first or regular ones, in such a manner as to form a series of arms, dividing the space regularly, so that no one can occupy more than his or her proper share, as seen in the engraving. When the regular seats are all filled the extra seats can be turned down in



FOSTER'S FOLDING SEAT FOR VEHICLES.

a moment, and a car which under the old arrangement would seat only twenty-two persons, will seat thirty-eight—a space of twelve inches still being left in the center, through which people can pass in or out of the car.

Mr. Foster is a young mechanic of this city, whose inventive faculties were no doubt called into activity by the experience of standing up and seeing passengers jostling awkwardly into each others ribs, as the car unexpectedly starts or halts. As his invention affords the opportunity, at a very trifling expenditure, of doing away with all this, and besides of the necessity of giving up one's seat every time that a lady "heaves in sight," and of frequently becoming separated from one's companion in a car, it is to be hoped that the leading city railroad companies will be enterprising enough to bring it into immediate use, for the benefit of their patrons.

The shape of the folding seat is not material, but is so adapted as not to interfere with the regular seats while it is not in use, and folded back. In that position it is made to fit closely into the cushion of the regular seat, and the curve of its edges is such as to take it out of the way of the ordinary occupant. By this means it will be seen that the seating capacity of any car, or other place of whatever kind, where it is necessary to seat a number of persons, can be exactly doubled.

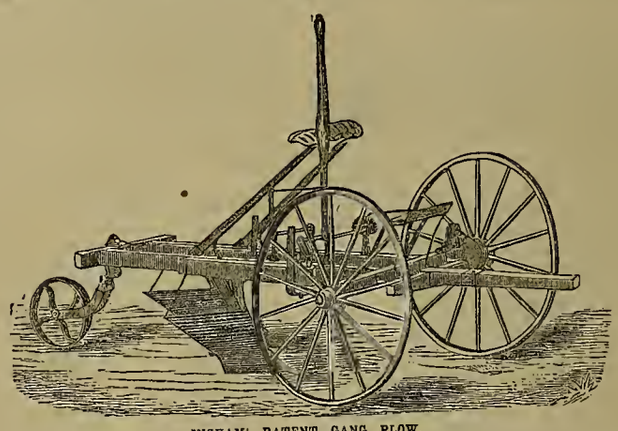
Death of a California Inventor.—Thomas Hansbrow, an old and highly esteemed citizen of this State, died at his residence in Sacramento on Monday evening, of paralysis, from which he had suffered for a long time. He was, in 1856, Superintendent of the City Water Works; in 1860 and 1861, a member of the Board of Supervisors for the Second District; member of the Legislature in 1855-6, and represented the State by appointment of the Governor, at the World's Fair, in London. Mr. Hansbrow was the Superintendent of the machinery department at the State Fair of 1867, etc. He was the inventor of "Hansbrow's Challenge Pump," "Hydrostatic Engine," "Amalgamating Pan," and other inventions suggested by the wants of the times, through which his name has become to the readers of the Mining and Scientific Press, as familiar as a household word.

Vaccination.—Dr. S. F. Elliott, late Health Officer of San Francisco, has written a pamphlet on re-vaccination, and how to prevent small-pox; giving the opinions of eminent physicians of Europe, and all desirable information on the subject that would interest those who may suspect themselves to have been exposed. Bancroft & Co., publishers.

Ingham's Gang Plow.

We herewith give the first newspaper illustration of Messrs. J. & J. Ingham's Gang Plow, a California invention of practical use and merit.

There are several improvements patented in this invention, including the application of geared wheels and segments for raising and lowering the plows, and regulating their hight by an adjusting screw; a toothed connection of the axle, so that, although the furrow wheel may at times be the lowest, the axle will continue horizontal; and a device for shifting the "polo" or draft connection, from one side to the other. A further statement of the advantages of this gang plow will shortly appear in our advertising columns.



INGHAM' PATENT GANG PLOW.

Messrs. Ingham are practical wheelwrights, and manufacturers of agricultural implements for home use, and are in constant communication with farmers whose wants they are thereby the better enabled to understand; and thus it is that they have succeeded, in combination with their native genius, in producing a plow which is decidedly popular where most used and best known.

We can also add that they are men of the right stamp, judging from our intercourse with them in the securing of their patent rights, and the voluntary testimony of mutual friends.

We advise those interested to make an examination of this plow on exhibition at the Fair, and address Messrs. J. and J. Ingham, of San José, for further information.

Close of the Fair.—The Fair proper will close on Saturday night, but during next week there will be a series of grand benefits for the Protestant Orphan Asylum, the Roman Catholic Orphan Asylum, the Ladies Protection and Relief Society, and several other benevolent institutions of this city. The goods on exhibition will not be removed till the end of next week. A grand ball on the 17th will constitute the winding up of the Fair of 1868.

A vile old bachelor says that Adam's wife was called Eve because, when she appeared, man's day of happiness was drawing to a close.

An Editor Complimented.—A very pleasant little performance came off at the office of the Mining and Scientific Press, on last week. W. B. Ewer, Esq., the senior editor, who was to leave on the next day's steamer on a visit to "the old folks at home" in the Eastern States, was made the recipient of an elegant and valuable watch, —the gift of the *attaches* of the office. All preparations having been made beforehand, at a preconcerted signal Mr. Ewer, who was engaged in conversation with one of the confederates, suddenly found himself enrounded by the whole body, the members of which had quietly arrayed themselves in a semi-circle,—the center being occupied by himself and Mr. J. L. Boone, who had been deputed to act as spokesman. Before he could guess at the meaning of this singular arrangement, Mr. Boone commenced;—and in a neat little speech, just long enough to give Mr. Ewer time to collect himself, announced the "object of the meeting." In fitting terms he expressed the regard and esteem of the donors; and having duly invested its new owner with the gift, concluded with a cordial good-bye on their behalf, and the kindest wishes for "a pleasant journey and a safe return."

Mr. Ewer responded with a few appropriate remarks,—evidently deeply gratified at this spontaneous expression of kind feeling; and the crowd dispersed, filing past him, and each giving him a hearty hand-shake as he said farewell.

Mr. Ewer, who has been in editorial harness since 1856 without intermission, takes a brief rest of a few months only; expecting to resume his duties in January next. He is accompanied by his family, and is followed East by the good wishes of a host of friends, besides those of whom we have spoken.

The watch, a most appropriate present to one whose efforts have been directed towards the advancement of American industrial enterprises, is from the American Watch Company's establishment, and is elegantly cased in gold. The inside of the outer case bears the following inscription: "To W. B Ewer, M.A., from M. & S. Press associates."

Removal.—Our friends will please bear in mind that the Mining and Scientific Press Office, Patent Agency and Job Printing Office has been removed from 505 to 414 Clay street, about half a block below Sansome.

Our Industrial Fair.

[From the Mechanics' Fair Daily Press.]

General Review of the Exhibition.

CLASS XX.

Oil, Soap, Candles and Paints.

Olive oil of a superior quality, manufactured from olives grown in the southorn part of the State, by C. Louis, may be seen on the right hand side, not far from the entrance. It has the perfect light olive color, and the air bubbles inside when made to travel through it, do not betray thickness or viscidity.

Salad oil is exhibited hy Lake & Co. It is also of California manufacture, and differs hut slightly from the olive oil in appearance.

Dana & Codington exhibit a tall sample bottlefull of strained neats foot oil, of their own manufacture, besides glue and curled hair.

The Pacific Linseed Oil Works exhibit a variety of valuahle productions: raw linseed oil, of a light yellow color; hoiled ditto, of a dark walnut color; castor oil for medicinal, and also for lubricating purposea; linseed cake in slahs, and the same ground to powder for cow feed; metallic paint for ships' bottoms, tin roofing, outdoors of buildings, and machines; California and Oregon flaxseed, and castor beans.

Blacking is shown hy Lake & Co. known as the Japanese paste and by J. Herkimer, a water-proof blacking intended for harness, as well as hoots.

Soap is exhibited by the Eureka Soap Factory, entitled the Eureka Soap, and an article called the Erasive Soap Powder, in boxes, of which there is quite a stack on hand.

The Standard Soap Company makes a very large and enterprising exhibition, which is attractive to sight-seers as well as closer observers, comprising the materials from which soap is made: tallow, resin, sulphate of soda, cocoanut oil, and caustic soda—and also a number of incidental products, as sulphate of lime, oleic acid, stearic acid, glycerine, and residuum. The varieties of soap made by the Standard Company are: the chemical olive soap, glycerine, detersine, porcine, primrose, honey, etc. Wax candles, or aomething resemhling them very closely, and hydraulic pressed adamant candles, hesides washing powders, are also manufactured and shown hy this company.

Washing compounds of two kinds are represented: Bowman's, an oily substance with floating curds, resemhling cocoanut hair oil; and Kelly's, an olive colored, clear oily fluid.

Judson & Co. likewise exhibit hydraulic pressed adamautine candles with oleic acid.

The San Francisco Candle Company, whose factory is at the Mission, make an interesting exhihition of materials and products: oommon tallow; saponified or decomposed tallow, of a dark color; decomposed fat, purified and crystallized, preparatory to being pressed; stearic acid in cakes from the hydraulic press; and candles as they are sent into the market.

Paints and colors are represented in the productions of O. A. Olmstead's paint mine at Olmstead's Mills, Sonoma County. There are twelve different shades of color ahown—dry in hoxes, and also mixed in tin cans. Chemically they appear to he chiefly only different proportions of an earthy mixture of the sesquioxide of iron, hut as these are all of a different color, the manufacturer has been ahle to present very tolerahle pigments of sienna, ocher, umher, blue, hrown, red and hlack. The discoverer of this paint mine was a lady, Mrs. Mary Olmstead, aged 60, from whose hand there is shown a painting of ornamental work on glass, done with he natural products of her discovery.

CLASS XXI.

Painting, Drawing and Photography.

Nahl, Butler, Burgess, Marple, Bush, Arriola and Narjot, are the authors of some of the best paintings found in the Art Gallery. Kipps, Holdredge, Goddard, Wise, Woods, Young, Lai Yong, Frey, Henry, and others, exhibit works of less prctension and merit.

Nahl's mule train crossing the Sierra Nevada in a anowstorm, reminds one vividly of the real scene,—transports one to the spot, and carries with it all the sentiment of the situation. His Joaquin escaping, is a study alike for the historian and the romancer. Both pictures indicate the posaesaion of the tact to seize upon characteristic and salient phases of real life, the perpetuation of which are sufficient to immortalize any pencil or pen so employed. His picture of antelopes surprised hy a panther, exhibits a different style of handling as regarda natural history.

Butler exhibits nine pictures, all of them evincing the artist's power. The central portrait of a gentleman, numhered "238," and the simple-hearted, honest-eyed little lady to his left hand, (can she be a Californian?) will he acknowledged by every one to possess a degree of character and soul which is very seldom caught in a photograph. His dog—the ratty little fellow looking out of his cage on the right hand, and the generous New Foundland above, apparently scanning some friend at a distance—are instinct with life, and illustrate the traits of dog character, which lie at the foundation of the ancient friendship which sprung up, and which has existed between the talking and the harking animals, probahly from the time when they were first let loose together upon created earth. A liking for the portrayal of animal characteristics, shows itself also in the picture of a youthful horse, whose lineage, though undouhtedly most worthy, does not trouhle him,—any more than that of the passing Californian does him. Sandy and his dog in the Western Highlands, overlooking a frith, impress the spectator with just such thoughts as the traveler to the land o'cakes would be likely to bring back with him in some corner of his memory. The remaiuing portraits of Butler, though spirited, have some peculiarity in their finish which detracts from the otherwise favorable im-

Bush's "Chagres River" portrays successfully the wonderful riches of tropical forest and water. In his "Panama," aud some other pictures, he did not stop loug enough to sketch what he saw,—possibly from fear of catching a whisk of fever,—to enable him to get in all the beauties that he might have elaborated.

Arriola's "Isthmus of Tehauntepec" by moonlight, shows almost an opposite aspect of tropical acenery, as well as a different style of treatment, hut it tells the truth very successfully. As to his vivid coloring of day scenes, nature colors hrilliantly in California, and paints are cheap; hut people do not see all the colors as hrilliantly as they sometimes are, and it is safer for the artist to paint modestly that which manifests itself to us in so delicate a manner.

Narjot's "Mexican Conducta" is a valuable contribution, because it is a well painted picture of real life and character.

But it will be impossible to make reference to everything that is praiseworthy in the Art Gallery. There are ten hrilliaut water colors by Goddard; eight oil paintings illustrating an honest miner's carcer, by H. J. Frey; five pencil and India ink drawings from Shubrickville, by Gustavus Janssen; au amusingly literal family group, hy a Chinaman; a numher of old masters, —Remhraudt, Rubens, (?) and Rosseau; numerous frames of moss and wax pictures; an English racing scene; an architectural piece, hy Kenitzer & Farquharson; frescoes and a crayon Apollo, by Otto Schrader; decorative work, hy Hirst & Nisby, etc. There is a large nnmber of pencil drawings in the Music Room, executed by the pupils of the Denman Grammar School, and of Oakland College School.

Photographs are exhibited by N. M. Klain, Thomas Houseworth, Bayley & Cramer, Bradley & Rulofson, C. E. Watkins, Silas Selleck, and Mr. Vaughan. Specially deserving of mention and commendation, are Houseworth's stereoscopic and wall views illustrative of California life and scenery; Bradley & Rulofson's scenic combinations with ordinary portraiture; and Watkin's landscapes, frequently betraying the judgment of a real artist in the selection of atandpoints.

Embroidery of wonderful execution, illustrating the feminine addiction to patient routine, (as legitimate means, perhaps, of keeping out of mischief), is exhibited by Miss Juliana Boyer, Mrs. Louis Zeh, Madame Champion, etc.

CLASS XXII.

Musical Instruments.

The piano factory of Jacob Zech, of Ninth street, is represented by four instruments, two upright and two square pianos. One of the uprights is made of heautiful variegated laurel, polished hy Dennis Doolan. Prices, $500 and $600.

Bowers' music depot furnishes three family (Smith's) melodeons, of different sizes, a church organ with treadle bellows, having sixteen stops, and several Hazeltine pianos for $500 and $600.

A miniature piano is exhibited which was made by Michael A. Lawton, a boy who never worked at any trade.

In the front gallery, C. Wiederhold & Co. show two uprights, a grand and a square piano; the grand piano for $1,200 and the square for $600.

Rosenherg exhibits Knabe's pianos; a grand for $1,000, and a square piauo for $600. Also, a Burdette organ with four stops, for $250, and a case full of brass and wind instruments.

John G. Davies exhibits superior flutes of his own manufacture, iu the art gallery.

C. C. Keene has a case containing drums, accordeons, guitars, banjos, hrass instruments and a hassoon.

The calliope completes the list.

CLASS XXIII.

1—Woolen Manufactures.

The display of articles of the hetter quality of woolen manufacture, along the south side of the Pavilion, constitutes the most marked feature of the exhihition, as evidencing the advancement of economical manufacturing on the coast.

The Pioneer Mill was the first woolen mill established. Every few months new styles of goods are brought out, adapted for use on this coast. The mill was established in 1859, and was started with 8 looms and 1,000 spindles. It has been enlarged until it now has a frontage of ahout 400 feet by 60 feet in depth, and operates 7,000 spindles and 72 looms of the latest improvements. Upwards of $20,000 per annum are paid for dye-stuffs; the hands number from 375 to 400, and from $20,000 to $25,000 a month are paid to operators.

There are hlankets of every style; flannels that would not irritate an infant; cloths which are sought for opera cloaks, of every variety of shade and texture; heavy goods for overcoats, and lighter ones for the nice young man, and shawls of sober colors.

The Mission Woolen Mills occupy a large space with a great variety of goods. The knit goods have become famous for strength, good texture and wear. Every conceivable variety of them are shown, hesides a line of blankets which would make the eyes of the young housekeeper glisten. Heavy overgoods, cassimere and beaver cloths are shown good enough to clothe royalty itself.

A workman from the Pacific Woolen Mills produces a clatter with a knitting loom—an English inveution lately received here, for knitting drawers and undershirts.

A woolen factory was started about six months ago hy a joint stock company, comprising many of the promineut citizens at Marysville—not so much as a speculation as to infuse new life into their town. The experiment has been succcssful. They are now running night and day, and their products are engaged ahead. These mills claim advantages over those in San Francisco, inasmuch as they have invested but a small amount of capital in real estate, and can purchase wool in the neighborhood, thereby saving the freights which have to be paid by the San Francisco mills. At present their flannels are in particular demand, for which reason they do not manufacture so large a variety as they will when their capacity is increased. The mills are now turning out from $6,000 to $10,000 worth of goods per month, and machinery now on the way will enable them to manufacture double this amount and produce a greater variety. They have on exhihition gray and white blankets and a variety of flannels. The capital of the company is $50,000, only $8,000 of which was absorbed in real estate, leaving the balance for the legitimate purposes of the factory. Owing to their facilities for purchasing the raw material, they claim to he ahle to undersell the San Francisco mills, a proposition which it will take time to determine. L. & M. Sachs & Co., of this city, are agents for the mills, and have entered iuto a contract for the entire product, excepting only such as are taken by a wholesale house in Marysville, for the local trade.

2—Cotton Manufactures.

The Oakland Cotton Factory is the only establishment of the kind on the Pacific Coast. It was erected four years ago, and has been at least a partial success. As yet, the yield of cotton in California is not sufficient to keep it in constant supply. The proprietors are compelled to import largely of their raw material from the Atlantic States, Mexico and Oregon. They run thirty-two looms, work about forty hands, and consume 150,000 pounds of cotton per annum. From this amount of stock they turn out 300,000 yards of cloths, sheetings, shirtings and drillings, in the same length of time.

The goods exhibited at the Fair, comprise linseya for ladies' dressea of several distinct and substantially manufactured styles, different in quality and colors; also thirty-five different patterns of tweeds for gents' and boys' wear; water-proof tweeds for overcoats; unbleached shirtings and sheetings of all grades of fineness. The drills are considered the hest in the California market. William H. Rector, the senior proprietor, is expected to return from Europe on the incoming steamer, having been absent for the express purpose of procuring machinery for the manufacture of flax, jute, hemp and other coarse fiber into grain bags. After it has gotten fairly into operation, the farmers of Alameda, San Joaquin, Contra Costa, and other grain-growing counties, will be enahled to secure their sacks cheaply, almost at their doors.

CLASS XXIV.

Furs, Clothing, Hats and Caps.

Adolph Muller has a great variety of goods, of his own manufacture. There are capes of Siberian mink at a cost of $600, of Siberian sable, valued at $2,500, with $200 additional for a muff; huggy robes of hadgers, lynx, wildcat and tame cat, fox, bear; Astracan and sea otter capes, ermine, etc. The manufactory employs abont 25 hands, including four cntter and several fur dressers. Mr. Muller imports all his skins raw, and makes them up to order. The larger part come from the northwest coast, hut some are brought from Europe and Africa.

H. Liebes & Co., fur dealers, exhibit a large variety of goods of their own manufacture. In this collection is a rug made of 5,000 pieces, and representing all the skins of fur-hearing animals known in the world. There are silver fox skins, ermiues, sables and minks, the whole constitnting a tasteful assortment.

The fur husiness has greatly increased of late aud the samples on exhihition illustrate the hest stylea of these goods is now made up in the city.

Clothing is exhibited hy a number of firms: S. Reinstein, of the Pioneer Clothing Factory; by the Pioneer Woolen Factory and the Mission Woolen Mills; the Pacific Woolen Mills, (knitting work), together with a knitting loom, which is at work occasionally; hy J. & S. Figel; Meyer Jonasson & Co., (ladies' clothing); H. Friedlander & Co., ladies and childrens' under garments; by H. M. Heimann, of the Pacific Necktie Factory; Lancaster's "perfect fitting pants; and by Josephi Bros., general clothiers. Specimens of blanket cleaniug are shown by Weyer & Co., and of kid glove cleauing, by John F. Snow.

Hats and caps are exhibited of the hest quality hy Meussdorffer, Lamott and Adams.

CLASS XXV.

Silk and its Manufacture.

Mr. L. Prevost, of San José, who is the pioneer iu the silk business in California, has charge of that department in the Exhibition, and lends his aid to Mr. Newman, the first manufacturer who practically demonstrates the various processes through which the cocoons are put from the time the worm leaves them until they are presented to the public in the shape of manufactured articles. There are several bushels of cocoons on exhibitiou, but in order to prevent people from handling them they are kept iu a large-sized glass case. The cocoons consist of the sheath of loose filaments, attached to the twigs that support the whole, and heneath this the external coat of soft flossy silk, within which is the compact, oval hall or cocoon proper. The thread is not wound regularly around the inside of the hollow ball, but is passed back and forth in one place after another in such a manner that many yards may be wound off without turning over the ball. It is produced through two orifices in the nose of the worm, and the two fibers, on issuing forth, are secured together by the glutinous matter which accompanies them. The cocoons are placed in a trough holding hot water, which is kept at the necessary temperature hy a steam pipe. The gummy matters are softened hy the water, and the fihers are thua released. The ends are caught up hy a little aort of hroom, with which the coooons are stirred, and heing hrought together, are passed through an eyelet, which atrips off a portion of the gum, and still more ia ruhhed off hy causing the threads formed by each hundle of fihers to cross and ruh against each other as they are conducted in a diagonal mauner through a succession of eyelets toward the reel, just previous to reaching which all are united in one thread, which is woven into a delicate fahric on the spot, hy a skillful workman, on oue of Mr. Newman's looms. California possesses many advantages as a silk-growiug country, chief amougst which may he mentioned the fact that the worms do not become diseased.

The European manufacturers obtain the greater part of their raw matcrial from China and Japan. Before the establishment of a line of steamers between this State and China and Japau, the Eastern manufacturers obtained their raw materials from London, but they now receive all their supplies through San Francisco. The spinning department can he worked auccessfully with

children, from thirteen years of age and upwards.

Men who have lands suited to the production of the mulberry tree, and others who have means to undertake any new thing that offers to be remunerative, are inquiring into this business, and not a few are already preparing for it.

CLASS XXVI.

Sewing Machines, Needlework, Millinery, etc.

All the competing elements seeking for the ascendency in practically applying this most beautiful of all the mechanical triumphs of modern times, are of course represented in a place like the Mechanics' Institute Fair, whose area of contribution is the Pacific Coast; and not merely represented, but the blessings of the sewing machine are silently and most eloquently advocated to the passing multitude by very amiable representatives of the gentler sex for whose elevation that invention was undoubtedly intended. The masculine engineers and advocates of the ingenious machine—successors to the philanthropic spirit of Elias Howe, who seem to be out of place if they do not evince a consciousness of that fact in their very demeanor—are also there to support their special cause with abundant energy; and the thinking mechanic himself, who is the creator of such wonders, might sometimes be observed leaning over the railings to take a passing glance at the execution of the several little parts whose function he well knows that he understands far better than do the delicate hands that have them under such complete control.

It will be impossible to speak fully of all the sewing machines, and it is moreover quite unnecessary, as the machines are themselves exhibited and will speak plainly and unabstrusely to the visitor and observer. We will merely mention what machines are to be seen, and by whom they are exhibited.

There is the Florence, exhibited by Samuel Hill; the Grover & Baker, by R. G. Brown; the Wheeler & Wilson, by M. M. Stoddard; the Singer, by Davenport; the Wilcox & Gibbs, No. 203 Kearny street; three sewing and one knitting machine, by A. H. Supplee, viz: the Sloat machine, the Elliptic Hook machine, the American Combination Button-hole and Overseaming sewing machine, and the Bickford Family Knitting machine; the Hancock Hand Sewing machine, by Fuller & Co.; and a Ladd & Webster machine with some newly invented applications, by Mr. Hanna.

The Florence sewing machine was more specially examined by us. Its peculiarity to the spectator, is the lever motion of the beam which carries the needle, being oscilated by means of a sliding eccentric at the opposite end. It makes four different stitches, the lock, knot, double lock, and double knot, on one and the same machine, each stitch being alike on both sides of the fabric. Every machine has the reversible feed motion, which enables the operator, by simply turning a thumb-screw, to have the work run either to the right or left, to stay any part of the seam, or fasten the ends of seams, without turning the fabric, changing the length of stitch, and from one kind of stitch to another, can readily be done while the machine is in motion.

The wide range of application and facility of control which it affords, have won for the Florence a reputation as a family machine, and for such uses it was decided in 1866 by the committee on sewing machines of the State Fair to be the best thing thus far invented.

The Grover & Baker machine holds a prominent ground against other competitors for public favor. It is an old campaigner, and yet is up to the times, in having taken advantage of every available improvement. One great advantage claimed for their family machine is the elasticity and stretch of the stitch, which is effected by means of two spools of thread, one above and one below the sewing. No better evidence of the correctness of this claim could be offered than the fact which is mentioned to inquirers, that the Grover & Baker machines are used and driven by steam at the Pacific Woolen Mills for the manufacture of elastic underclothing, where a rigid stitch would tear on stretching. By steam they make 1,600 stitches a minute, while by hand from 200 to 300 is the extreme of the rapidity that can be attained.

Their large and heavy lock stitch machine for boots, shoes, carriage trimmings and heavy clothing, is the newest and most approved machine of the kind in the market, and is generally used in the boot manufacturing establishments of San Francisco. In rapid action it is claimed to be run with a steadiness never before attained. By new and simple devices the difficulties arising from unevenness of tension upon both shuttle and needle thread, are overcome.

No prize is competed for by the exhibitors of sewing machines, it being deemed better policy to encourage a full exhibition of all the different machines to be found in the market, in order to enable visitors to judge for themselves as to their merits.

In millinery there is a great deal to be seen, for ladies. But what is it that makes them so passionately fond of filigree work, or any kind of work that requires only a great deal of devoted patience? Is it not a waste of their best life and exertion and of the principal value of such goods, when the significance of the article manufactured by women is overlooked, and it is allowed to change hands for a mere price in money? The devotion that must manifest itself, with or without any object, as the child by instinct must have its doll, is "cast upon the waters," without returning for many days.

We can barely mention the establishments represented: H. Friedlander, millinery and ladies' clothing; Mrs. E. E. Caswell, Golden City Straw Works, French buckram frames; Jacobs, Newman & Co., hoop skirts and trimmings; Mrs. Van Deusen, millinery; Madame Goldberg, fashionable trimming; Mrs. Gabriel, embroidery with fish scales; Ladies' Depository—Mrs. Kirwan, fancy articles for children; Mrs. E. Blochman, bonnets, etc.; another Ladies' Depository—J. W. Davidson, children's embroidered articles; Women's Co-Operative Union, ladies', gentlemen's and children's furnishing goods; Mrs. M. A. Butler, millinery; Mrs. M. Curtis, garment-cutting and embroidery.

The Pacific Straw Works make an interesting exhibition, chiefly of ladies' straw hats, of very elegant appearance. An iron heating and pressing machine, to shape the articles after being manufactured, is occasionally at work.

Mrs. Bolander exhibits fine hair jewelry and embroidery. Mrs. C. Cook has a large and splendid exhibition of tastefully executed hair jewelry.

Samson Rosenblatt exhibits cloaks and lace materials.

John D. Barr and J. Alsop have cases of ladies' parasols, of good quality and appearance.

CLASS XXVII.

California Wines and Brandies, Bitters, Punches, etc.

Samples are exhibited of every brand manufactured by all the leading wine producers of the State. The display is uniformly unostentatious, but completely representative. B. D. Wilson occupies a well used space with the Lake Vineyard wines, and J. R. Snyder is alongside with all the known varieties of Sonoma wines. Perkins, Steru & Co. and Kohler & Frohliug make equally complete exhibitions; the comparative qualities of all of which are better discussed lahially than descriptively. Eberhardt & Lachman, besidee ehowing various brands of wines, make eomewhat of a epecialty of California hrandies. Sparkling wines by J. J. Landsherger, and Los Angeles wines by M. Keller, complete the list of native wine producers represented, who do not at the eame time make a specialty of other liquors.

McMillan & Kester exhibit syrups, cordials, essences, bitters, and California wines. J. Sajous exhibits some wild grape bitters, and Bennett'e Ale and Porter. Wertheimher & Waterman exhibit hitters, cordials, and wines; Dr. Henley's Wild Grape Root Bittere and other bitters, are represented in a large array of hottles and packages; Whiting & Berry make a fine exhibition of unadulterated wines and hrandies for medicinal purposes, besides punches and bitters and showy pyramids containing samples of punches are erected to represent Ricci & Bona, the successor of Squarza, in their particular specialty.

CLASS XXVIII.

Agriculture, Horticulture, Seeds and Plants.

Though the Institute Fair was not intended to embrace an agricultural exhibition, yet it is perfectly within the scope of our mechanical interests to represent prominently every kind of tool or machine that is manufactured for the use of farmers. More regard was paid to this department at the last exhibition than there is at the present. All the articles on exhibitiou have already heen noticed under Class II, with the exception of such as have been since added.

Booth's combined Shaker and Grain Separator is exhibited. It is arranged in a box, on three legs, and vibrates by hand; weighs only 25 pounds, can he operated anywhere, and separates and cleans from 10 to 20 bushels per hour. It is said to be perfectly adapted to the work of eeparating oats, barley and all small seeds from wheat.

Two of Randall's Sulky Rakes are shown hy Smith & Weister, of San Francisco, one with iron, the other with woodon teeth. They are drawn by horses, and the driver loads or discharges the rake at the proper points by means of a lever, acted upon by his feet, which lifts the rake.

Slusser'e self-loading excavator doserves notice as an ingenious and valuable labor-saving contrivance. It consists of a load-box, endless elevator and steel shovel plow-shaped scoop, carried between four wheels like a wagon bed. The ecoop is situated under the forward axle; behind it is the elevator, and hetween the hind wheels is the box to receive the dirt. The driver sits over the forward axle, and the operations performed hy him consist simply in placing his foot on a treadle, and by a slight pressure when he comes to the loading ground, drops the scoop to any desirable depth, and the forward motion of the machine causes the earth to slide over the scoop on the elevator, up into the hody. The driver then proceeds to the dumping place, and without stopping, eimply pulls the trip-rod, which instantly drops the whole load through the hottom. The machine has heen tested, and ie said to work well.

A ditching machine is exhibited by Mr. Warren, of the *Farmer*, in the front gallery, which looks like a combination of the plow, and the "cow-catcher," besides numerous other articles from the *Farmer* office, which are very attractively displayed in the gallery, embracing agricultural curiosities and specimens of natural history. There is a novel American gate which opens up into the sky, and there are cashmere and cotswold fleeces of extraordinary richness.

Lamb's Vegetable Cutter is a new kind of machine, on the principle of a coffee mill, for cutting up potatoes, turnips, etc.

Mr. Perkins, the proprietor of the Golden Gate Nursery, (on the other side of the bay), has in the Fair 130 varieties of seeds. Forty-six of these are of this year's growth, freshly gathered, At the Paris Exposition Mr. Perkins' seeds attracted the attention of the Emperor, and were presented to him by the exhibitor, and planted in the gardens of the Tuileries, where they prospered so well that the King of Prussia has also desired samples.

Miniature gardens containing many rare and very beautiful plants, are planted near the fountain hy Mr. Woodward, from Woodward's Gardens, and by Collie & Stewart, of the Lone Mountain Nursery, which invariably attract the attention of the ladies, while the sterner sex are apt to pass them by. Mr. Woodward exhibits a great variety of foreign plants, embracing much that is beautiful and curious in Nature found in Central and South America. He has pine-apples, oranges, hananas, lemons, egg-plants and other tropical fruits growing—some ripe, while others are only partially ripe.

Collie & Stewart, of the Lone Mountain Nursery, have a superior collection of native California plants. They have devoted a great deal of time and attention to collecting native plants from all parts of California, Oregon, Arizoua and Nevada.

J. O'Hara, of tho nursery and flower garden on Napa and Twentieth streets, makes an elegant display of cut flowers and evergreen plants. His cut flowers embrace dahlias, fuschias, verbenas, roses, pinks, and a numher of very heautiful flowers with rare and unpronounceahle names. His collection of roses embraces a number of varieties, some of them very rare and all very heautiful. To him is due the credit of the evergreen ornamentation of the Pavilion in the neighhorhood of the fountain. Amongst the evergreens exhihited hy Mr. O'Hara, we may mention the English holly, the juniper, the Italian cypress, pines, specimens of the Mariposa Big Tree varieties, the India-rubber tree, the wax plant, etc.

J. Hutchinson, of Oakland, makes a very pretty exhibition of dahlias.

William Cantelan displays some magnificent-looking grapes, of the Napoleon variety, grown in his vineyard in Vaca Valley.

Dr. H. Haile, of Oakland, exhihits specimens of lemons grown in his garden. He shows the blossoms, the green fruit, and the matured fruit, all plucked from the same tree.

A very attractive display is made of apples grown in the Kerchiville Orchard, on the hanks of the Sacramento River. Some of the apples weigh nearly three ponuds, and look decidedly toothsome.

Mr. R. Muller exhibits Muscat, Rose, Muscat of Alexandria, Rose of Peru, and other varieties of grapes, all very fine, and calculated to make the months of those who look at them water.

J. V. Sims, whose orchard is on the Sacramento River, makes a very fine display of peaches, of different varieties.

A variety of excellent pears and magnificent Columhia plums, grown upon the hanks of the Sacramento River, are shown by the proprietor of Holland'e orchard.

E. J. Cummings exhihits two jars of fruit—one of pears and the other of nectarines—preserved in liquor. These jars were prepared ten years ago, and look as fresh and sound as if they had just been put up.

CLASS XXIX.

Substances used for Food.

The maccaroni and vermicelli establishmont of Raveuna, Ghirardelli & Co., is finely represented. In the ample showcases, divided and enbdivided into appropriate compartments to give them favorahle exhihition, are found such designations as trenette, lasagnette, Bianchi fini, mostacioli Bianchi, mostacioli daperian, lasagnette fini, and some twenty other kinds with equally unpronounccahle names to the unpracticed Anglo-Saxon ear.

Brignardello, Machiavelli & Co. make a eimilar exhihition of the Italian pastes, which are sometimes molded into shapes resembling succulent vegetables.

J. Knoll exhibits Clayton'e salad dressing,—the concentrated and hottled skill of a generation of bachelors, a yellowish oily looking fluid,—and some French mustard.

The Pioneer Flour Mills are represented by twenty-one specimens of variously ground peas, barley, wheat, corn, oats, buckwheat and rice.

Lake & Co. exhibit salad oil, and C. Louis, of Los Angeles, exhihits pure olive oil; hoth hoing of native production.

The Boston Cracker Bakery, at the corner of Broadway and Battery streets, is represented by a very handsome exhihition of all the varieties of crackers in the market. In another part of the Pavilion, J. H. Clark exhibits also varieties of Boston, and other crackers.

Salt is exhihited by B. F. Barton, of the Pioneer Salt Works, and by Holliday & Brenhem, of the Uniou Pacific Salt Compauy.

Vinegar is shown in barrels by Henry Schammel.

Under this head mention may be made also of the excellently kept Exhibition Restaurant of Mr. Mathiessen, iu oue of the wings, and of the cake and ice cream counter of McMillan & Kester in the front gallery.

Coffee and spices are shown hy C. Bernard—green and roasted, and Chartres coffee, ground spices, mustard, giuger, etc.; by B. Ackerman in the form of extract of coffee in packages and cans; and hy Marden & Myrick, whose display has the appearance of a miniature shop.

The California Chicory Manufactnring Company exhihit several kinds of chicory, ground into different degrees of fineness. The annual consumption of chicory, or "health coffee," as it is called, amounts in this State to 300,000 pounds. The company'e orop amounted iu 1867, to 100,000 pounds.

Samples of sugar are exhibited by the California Sugar Refinery. The show-cases contain slabs of sugar with inscriptions, and the different varieties and processes of manufacture are ehown, from the crude hrown article to a perfect state of crystallization and refiuement. Their clarified eyrups are also worthy of notice, of which there are sixteen samplee displayed.

The San Francisco Sugar Refinery, another estahlishment, exhibit an attractive assortmont of sugars, in loaves and lumps, in a finely pulverized condition.

CLASS XXX.

Miscellaneous—Tobacco, Telegraphy, Perfumery, Artificial Hair, Gas, etc.

Julius Morris exhihits a fine assortment of California cigars. Mr. Morris has heen in the husiness, in this city, for eight years, and employs 100 men, turning out 200,000 cigare per month. The large "after dinner cigar" is the work of Mr. Morris' own hands, and is six feet long, twenty-four inches in circumference, and contaius forty pounds of tobacco.

R. G. Gelien exhihits eome very excellent imitation Swiss cigars made at hie factory by the fair hands of women.

Joseph Gross exhibits cigars of excellent finish. The exterior is smooth and uuiform, and they are neatly packed and displayed.

George J. Hobe exhibits a fine assortment of emoking and chewing tohacco of all the popular brauds, and several varieties of San Francisco made snuffs.

Parker, Watson & Co. make a fine display of emokiug and manufactured tobacco. The smoking tohacco is of California manufacturo, being made of the Virginia leaf, which is imported in its crude etate, in hogsheads. As yet but little good tobacco has been raised in California, the weed growiug rapidly and rank, which makes the leaf thick and gummy.

B. C. Horn & Co., one of the oldest and best tobacco houses on the coast, make a modest display of their particular brands,

which are too well known to require comment.

Charles G. Emery & Co. exhibit their Green Seal smoking tobacco as a specialty.

Charles Kohlmann, meerschaum pipe manufacturer, exhibits raw meerschaum and amber, and a fine case full of pipes and amber mouth-pieces.

The State Telegraph Company exhibit an ordinary telegraphic instrument to the right hand of the fountain, where people can get "shocked" gratuitously. Similar working instruments are exhibited by the Pacific Business College, and by the California Business University.

Curled hair and glue are shown from the Pacific Glue Factory, of Dana & Codington. Kunitz's Santa Cruz glue is adjacent.

C. M. Chapin shows a fine case of perfumers' and barbers' and friseurs' goods.

Mrs. E. Doherty has a luxuriant supply of artificial hair and toupés for ladies.

H. Olsen shows a combination life-preserver and swimming apparatus. The hands and feet are enlarged and webbed like a frog's, and a bag of air is fastened on the back of the swimmer.

In addition to these there remain to he mentioned: Specimens of galvanism, by G. Kustel; a model of a flying machine, in a dilapidated state, and not exhibited, by Fearing; a self-generating gas machine, by Robert Heuston; soda fountains, by Willis and others; several very interesting cabinets of stuffed birds and other specimens of natural history, by Lorquin; a gymnastic swing, by S. E. Bradshaw; the fountain fleet, by Swyney & Smith; some revolutionary paper money, by Mr. Butler; a weather vane, by James Ross; a lamp extinguisher, by F. Rohrer; a castle made of playing cards, by L. P. McCarty; a picture of the San Francisco recreation grounds, by Hatton & Kohler; walrus tusks, sea shells, wax flowers, etc.

A few new entries are still made each day. Amongst these are a Harrison boiler, by Tay, Brooks & Backus; an iron planing machine, by the Pacific Iron Works; a miniature war steamer, from Woodward's Gardens; and a fine oil painting, entitled "Affections last Offering," by Toby E. Rosenthal, a young San Franciscian who has been studying art for several years past with promising success, at Munich.

Carvalho's Superheater.—This valuabls and important invention for the economization of fuel, has been satisfactorily tested in the large boiler which is supplying the steam for the engines at the Pavilion. Nothing could be more simple, or more natural than the increassd power from the same quantity of fuel, or from the same amount of steam when superheated. As the moist steam leaves the boiler in pipes leading to the engine and is exposed to the cold air, much of it is condensed to water and rendered ineffective. The superheater is merely a double winding of pipe filled with coils of iron wire to absorb the heat and impart it to the steam, which conducts this same steam hack again through the fire, heating it to 500°, before transmitting it, and making it perfectly dry. The gain in effectiveness is estimated at 25 to 35 per cent. The principal difficulty of the engineer at the Fair, since it is applied, has been to keep the fires low enough to avoid getting on too much pressure.

The advantages of this invention are evident when it is remembered that most of the steam generated in boilers passes through a greater or less depth of water before reaching the surface, and so becomes unavoidably charged with moisture, while the water which is thus carried over hy the steam has been highly heated at the expense of the fuel, is of no benefit for power, and of little avail for heatiug or drying purposes. The amount of water mechanically mixed with ordinary steam is further increased by the condensation which is constantly taking place in cylinders and steam pipes, while if the boiler "primes," as is quite common, the evil referred to is aggravated. The volume and elasticity of this wet steam are necessarily very greatly increased by drying it before use; and though this principle has long been known, advantage has never beeu taken of it practically on account of the expense aud want of durability of the apparatus used, a difficulty which has now been successfully overcome. Being no longer a matter of experiment, the application of the superheater to all ordinary steam boilers is a mere question of economy, which can be very speedily determined by thoso who are interested.

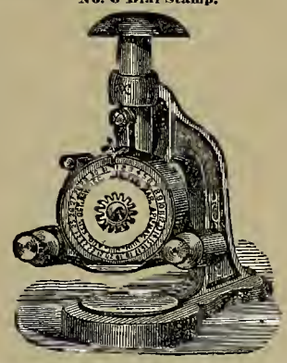
These superheaters are manufactured at the Ætna Iron Works, for Robert S. Harris, agent for the Pacific Coast. We learn from Mr. John L. Constable, who is the engineer, that they are being adopted into use in various sections of the country.

Paper and Stationery.

One of the most unmistakable evidences of the progress of civilization and refinement in any community, is the multiplication of hooks, paper and stationery. The hookstore and the stationery warehouse are the local habitations of literature, and their benign influence goes out among all the people who visit them. These two classes of business were formerly always connected; in fact, a "stationer" was a bookseller, so called, not because he sold books, but because he occupied a *stand*, or *station*, for their sale. As the extent of this business increased, hy reason of the more universal interest taken in literature by the masses, the two departments were separated, and a stationer came to he considered as one who deals chiefly in paper, hlank hooks, writing materials, etc.

Few persons are aware of the importance and extent of this branch of business on the Pacific Coast, or of the large amount of capital and labor employed in the home manufacture of paper, hlank hooks, etc. It is already becoming an important branch of our industrial pursuits. Messrs. John G. Hodge & Co., at the corner of Sansoms and Sacramento streets, have long been engaged in this branch of husiness—some ten years — have the largest stationery estahlishments on the coast, and are fully prepared to meet the wants of the country at large. As people in California require the hest of everything, they pay particular attention to obtaining such goods as are manufactured by the Carew Company,—extra fine writing and ledger paper, and J. G. Shaw & Co's make of hlank books,— both of which have a world-wide reputation, as heing superior to all others.

No. 6 Dial Stamp.



These goods, with everything helonging to the stationery and paper business, can he snpplied in quantities to snit, and at low prices.

Messrs. Hodge & Co. are also agent for Hills' patent dial, cancelling and bank note stamps, the only stamp in use having a dial to indicate the dates. These stamps are of various patterns, for railroads, hanks, for envelopes, seals, etc. One of the numerous neat styles is herewith illustrated, hut their superiority shows most clearly hy personal examination and long usage.

This Honse is manufacturer's agent for these stamps, and make a specialty of that branch of this trade, keeping a good variety on hand to suit the wants of the trade in regard to style, size and price.

Last winter we visited Mr. Hill's workshop in Springfield, Mass., and saw the various parts of the stamps, made hy machinery, to economize their cost and make perfect and exact parts. We can say they are thoroughly made for durability and use. Mr. Hill is not only successful in making good stamps, but we should judge from appearances, is leading the trade in his lioe.

They are also agents for Hill's superior branding iron, for branding tool-handles, etc. This instrument is very convenient, desirahle and cheap.

The Messrs. Hodge & Co. make a fine exhibit of their goods at the Pavilion, near and just to the right of the fountain.

Why is a fashionable young lady like a sportsman? Because she bags the hare.

Wellington's Vegetable Cutter.

The want of cheap portahle machinery for converting vegetahles into feed, has long heen felt,—a necessity that has been hut partially overcome by suhstituting hoiling in large kettles, which, besides heing a great inconvenience, is often expensive, the construction of a furnace, and the purchase of hoilers costing much more than the invention of which we speak — the Pacific agency of which is represented by Mr. F. B. Lamh, at 116 Jesse street, who has one of these cutters in the Fair, near the silk exhihition.



The construction of this machine, as illustrated in the ahove cut, is very simple, and its action easy, reducing the vegetahles to suitahle fineness with little labor. The cheapness of vegetahles as feed for horses and neat stock, has not been availahle here to any considerable extent, for want of just such an invention. A change from the juceless grass fodder of the dry season to a partial feeding of vegetahles, must result favorahly in tho raising and fattening of stock for market, lessening the cost and improving the quality. It may also stimulate the raising of vegetahles in certain localities where, without a cheap way of reduction, they would not be available. The machine cuts turnips, carrots, heets, potatoes, Wurtzels, pumpkins, etc., with the same ease, into gouge-shaped pieces, most suitahle for mastication. Thers are two sizes manufactured, the one on exhibition being of the smallest capacity. The largest is adapted to horse-power, with hopper capacity for four hushels.

The agent mentioned ahove is a stirring and experienced one, and we are pleased to see him successful in selling so meritorious an article. The cutter is just what is wanted in a fast conntry like ours, where beets frequently grow over 100 lbs. in weight. It would be cruel to force cattle to swallow them whole.

What are "Brazilian Pebbles?"—A special feature of Mr. Houseworth's exhihition of optical instruments aud optical appliances at the Fair, which has heen overlooked, is his showing of Brazilian pebbles, and of the pure and perfect lenses which are manufactured therefrom. They are nothing hut pure crystallized silica without a flaw, and are not necessarily all Brazilian, hut as they have been found plentifully and very perfect in that couutry, a trade has sprung up for the supply of the London and Paris lens manufacturers, who pay good prices for the mineral. Spectacle lenses were formerly all made of common glass, but they have been found to be much less pure, and at the same time to be more inflaming to the eyes, than the pure and cold natural product of the caverns of the earth. An examination with the tourmaline tongs or "pebble trier" shows common glass to be almost dark, where the rock crystal is luminous; and ou touching them both to the tongue there is observable at once the most marked difference as to temperature. Brazilian pebble glasses cost the manufacturers ten times as much as the ordinary glasses, yet the price at which they are sold is only four times that of the latter—viz., $6 and $2½ respectivcly. It is certainly unwise economy that would suhmit so delicate an organ as the eye to the use of imperfect or irritating glasses. For old people, there is a new thing exhihited, which is founded on a correct principle—a glass ground, with a different focus on the upper half from that of the lower half, adapting the spectacles to seeing both distant and near objects.

Scraper and Tube Cleaner.

The following is the patentee's claims and description of the novel and ingenious invention herewith illustrated. It is the cheapest, best, most durable, easiest to adjust, and cleanest apparatus to use for ths pnrpose designed, yet offered to the puhlic. Being constructed on simple and mechanical principles, it is not liahle to get out of order, and will continue to perform its office until the materials are worn ont. It can readily be adjusted, even by any inexperienced person—will scrape off ths scales and cleanse the tuhes just as smooth and clean as they were when new, without in the least affecting their inner surface, as the Elliptic Spring Scraper has a smooth square edge, and springs in or out to fit the tubes.



A coutinuous iron rod runs through ths center of the top and hottom hubs. Ths soft steel scrapers are fastened with screws to the hubs, under the caps, which cover and protect the screws that fasten the scrapers on the hub. The scrapers are expanded or contracted by screwing or unscrewing the lower hub,—first loosening the cap. There is a collar on the rod, with a set screw in it to fix it firmly on the rod to prevent the scrapers being jammed. An elastic or flexible brush or scraper, made of leather, rubber, or some pliahle material, is attached to the nut for the purpose of removing from the tube tho scale and dust loosened hy the action of the scrapers.

These scrapers are made from one to six inches in diameter—the prices of those from one to three inches ranging from $5 to $12. They are now extensivcly used in the Eastern States. Quite a nnmher havs already been sold at the Union Foundry, Sacramento, giving the best of satisfaction. They are on exhibition at the Mechanics' Fair, by McAfee, Spiers & Co., boilsrmakers, Howard street, betwcen Fremont and Beale.

Position of the Wrist in Playing.—The "Piano Pupil's Monitor" is a device suggested by J. D. Patrick, a teacher of experience, for the purpose of insuring a proper position of the wrist in playing ths piano. A correct habit in this respect is deemed of importance to the permanent progress of the student. A bar or other contrivance attached to the piano, in front of the keys, for the support of the pupil's wrists, is by no means a new invention; hut a strip armed with a bevel edge, not sharp enough to do any injury to the wrist, yet possessing a sufficient edge to render it an uncomfortable support for the wrist, ia claimed to possess both novelty and utility. Many distinguished professors have given their verdict against the use of any snpport for the wrist, and probahly no permanent benefit can he derived from the nse of such a support; but there could be no harm in having something which would remind the pupil when the wrist might be too low, without serving as a support for the wrist. Teachers or parents who may desire ths Pupil's Monitor can economize hy leaving orders with the inventor, 326 Mason street, near Geary. The invention may be seen on Mr. Rudolf's piano, at the Mechanics' Fair.

First-Class Groceries are not only ths best, but really the cheapest. The waste on second ratc provisions, on an average, more than equals the difference in price. Give your orders to Bowen Bros., and you will get value received, not once, but every time.

[From the Mechanics' Fair Daily Press.]

OUR BRASS FOUNDRIES.—In its review of the Fair, tho *Morning Call* gives the following in referenco to this important branch of local manufactures: There are several brass foundries in San Francisco, aud each one makes a very respectable exhibition of articles manufactured by them. Some of thaso foundries were commenced in 1850, at which time they manufactnred only tho commonest style of work; hut as they grew older they advanced, until at tha present tima all articles in that line can be produced of as good quality and finish as can be found elsewhere. At first the business was subject to the great drawbacks of high wages, ronts, and interest on money, as compared with tho same trade in the Atlantic States, while importers made vigorous competition to supply the demand. By hard work and close economy, our local manufactnrers, however, succeeded in establishing a prosperous business, and during tho past five or six years hava been ahle to undersell the importers of Eastern work in many articles of tha trade. All varieties of work have been made, including the casting of bells of considerahle size, of good volnme of sound and tone. The general consumption of brass goods on tha Pacific coast is estimated by competent judges at from $230,000 to $250,000, of which our local foundries supply over three-fifths. The most extensive display at the Pavilion is mada by W. T. Garratt, whosa foundry is on the corner of Fremont and Mission streets. Amongst the articles exhibited are steam whistles, valves, gauge cocks, water-gaugea, gongs, oil pumps, nails, butts, etc. They have also two of Col. Buckley'a deep-sea sounders, designed by himself, and mannfactured for him by this firm. He used them in making soundings for the Russian telegraph cable. They also exhibit several of Roscoe's patent oilers for luhricating engines, and which are intended to make the supply of oil to the friction parts of machinery as regular and constant as Nature supplies tha lubricating fluid to the joints of animals. Two cannon, mada for tha Telegraph Expedition, ara also exhihited. They are very fine specimena of workmanship, and attract no little attention from those who visit the Fair. This firm hava been engaged in business in San Francisco since 1850, and havo now some forty men employed.

Messrs. Gallagher & Weed, of the California Brass Works, also make a very fine display of articles manufactured hy them. Their articles are pronounced, by competent judges, to be fully equal to any imported. This firm employ about twenty men, and hava made arrangements for augmenting their force. With such workmen as the above in California, it is folly for our people to patroniza Eastern manufacturera.

SURMISES CONCERNING THE OBJECT OF THE CHINESE EMBASSY.—One of the many rumors which have obtained currency in Europe, as to the object of the Burlingame-Chinese mission in that country is, that they desire to secure co-operation for the opening of a ship canal through the Isthmus of Darien, to which China is willing to contribute $15,000,000. The dispatch of such a mission shows an advance in knowledge at Pekin, which is difficult for Enropeans and Americans unacquainted with the country to realize; but it is well known that the Imperial Government, from which Mr. Burlingame derives his commission, has been pressed so sorely by the rebels as to ba in danger of dissolution, and the Emperor's counsellors may well be conceived, under the pressure of events, to have seen the force of auch points as that wida-awake American would be likely to have presented to them, and determined as a last resource to cultivate tha arts and commerce of civilized nations, or even to hid for the friendship and aid, if not the intervention, of the powers which they are well assured control the world. Bancroft & Co., pnhlishers.

NEW LAW OFFICE.—Thosa who may hava legal business in Yuha, Siarra, and Plumas counties, aluld taka notice that J. M. Havan, Esq., late District Attorney of Sierra, has opened an office at No. 25 Montgomery Block. His intimata acquaintanca with businaas and men in that section would ba of great advantaga to clients. We can endorsa Mr. Haven as prompt, capahle and reliable, having had buainass relations with him extending over a term of years.

WHY do woman lika stays? Because they feel so-lacad by them.

HUGHES, KIMBALL & Co'a TIRE UPSETTER.—This is a California invention, which has recently hoen perfected hy Mr. Wm. M. Hughes. It is the result of much study and thought, aud embraces a combination of mcchanical movements and principles which one would scarcaly expect to meet with in a machine of this description. No one thing has hean overlooked in its design or constrnction which could ha of any possihle advantage in tha important use to which it is applied. Ona of these machines can he seen in operation at the large carriage manufactory, corner of Fourth and Bryant atreets, and another may he seen at the Pavilion, whare Mr. Hughes, tha inventor, is generally in attendance, for the purpose of explaining its principlea and mode of operation.

The chief advantages claimed for thia over other machines of the kind in usa are tha following:

1st.—Tha power is mora direct in application, tha movemant being in a curve, to operate upon a curved form.

2d.—Tha lina of power is directly in the line of resistance.

3d.—It is ready of adjustmant and rapid in its operation.

4th.—One man may operate it alone.

5th.—The tire is held haneath a convex, to pravent huckling or kinking, while under pressnre.

6th.—The smoothness of tha outsida and edgea of the tire are praserved by a simple but effective device.

By a rapid shifting of eccentrics, the power of tha machine may be increased to suit tha resistance to be offered, without altering the length of tha lever.

The end of the lever, passing through a semi-circle instead of a quadrant as in many similar machines, the power is proportionately greater.

A GRAND PROMENADE CARNIVAL and Fancy Dress Ball is to take place under the auspices of the Board of Mauagers of the Mechanica' Institute, in the Pavilion, on Thursday evening, Sept. 17th, 1868. The Committea announce that immediately after the removal of all articles from the Pavilion at the close of the Fair, a magnificent ball room floor will he laid, 21,000 square feet, covering the entira space under the nave, with tha axception of the fountain, which will be in full operation, on the night of tha hall. The Pavilion will be illuminated on this occasion, hy 1,300 hurnars. The left wing front of the bnilding will he converted into a ladies' reception, and the right wing, corresponding, into a gents' reception. The apaca allotted to tha display of woolen and furniture, will be altered into rafreshments and supper rooms; and the spacious art gallary will ba comfortably arranged as a drawing room, which can be used by those who desire to withdraw temporarily from the buatle and excitement of the carnival. Tha promenade gallery will remain intact, and will afford a brilliant view of the entira dancing floor. An orchestra of eighty performers has heen engaged. Supper will ha served a la carta.

Two prizes will be awarded by a committea of well-known gentlemen, chosen for the purpose, to the best lady and gentleman ccricature present, a beautiful set of jawelry to the lady, and a handsoma gold medal to the gentleman. It will ba understood that the prizes will not ba awarded of necessity to the best dressed lady or gentleman, but to those, who, if they assuma a character, best sustain it until midnight.

Tickets for dancars are fixed at $5, and for spectators at $1.50.

OVERLOOKED.—Owing to the absence of any classified catalogue, it has been impossible, until within tha last day or two, for any one to know what there was on exhibition under any given class, otherwisa than by hunting tha articles together, scattered as thay ara throughout the entire Pavilion. Our general review having heen made out necessarily in that manner, it could not happen otherwise than that some important or nnimportant things, should hava been unintentionally overlooked. Amongst these we have diacovered Millar'a adjustabla aaw taeth, referred to in another paragraph; Pointer'a leather trunks, a splendid pyramid of richly suhatantial goods, of puraly homa manufacture; French's ditto, in tha sama naighborhood, and equally imposing; and Mrs. Winship's millinery—a fine display of tasteful ladies' honnata, and artificial leaves and flowers, amongst which we noticed with delight the native white harehall or "snow-bell" of the foothills of the Sierra Navada, which ia found nowhere elsa in the world, so far aa wa are awara.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.]

Comprising the Names of Companies, Ostrict or County of Location; Amount and date of Assessment; Date of Meeting; Day of Oelinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE.
Amador Co., dividend, $6 per share	Payable Aug. 20	
Bunker Hill, Amador co., May 19, $10	Oct. 6	Oct. 26*
Bullion, Aug. 19, $10	Payable Immediately	
Belcher, Storey co., Nev	Special Meeting Oct. 1	
Bacon, Storey co., Nev., div	Payable June 19	
Belcher, Storey co., Nev., July 13, $25	Aug. 13	Sept 14
Cosala, Sinaloa, Mexico	Annual Meeting Sept. 21	
Chalk Mt. B. G., Nevada co., Aug. 17, $1	Sept. 23	Oct. 12*
Chipionena, Mexico, July 9, $5	Aug. 13	Aug. 31*
Crown Point, dividend, $7.50	Payable July 11	
Daney, Lyon co. Nev., July 27, $2	Sept. 1	Sept. 20
Enterprise, Meadow Lake, Aug. 28, $1	Sept. 30	Oct. 17
Eureka	Annual Meeting Sept. 11	
Empire M. & M., Nev., dividend $6	Payable May 15	
Folsom St & F. Pt R. R. Co., July 30, $5	Aug. 29	Sept. 14*
Gold Hill Tun., Storey co., Nev. July 18, $2	Sale Sept 9*	
Gold Hill Q M & M—dividend, $7 50	Payable July 13	
Golden Bule, Tuolumne co, div. 50c ₱ sh	Payable Aug. 23*	
Hope Gravel, Nevada co, July 30, $1	Sept. 10	Oct. 5*
Hale & Norcross, Storey co., Nev., July 22, $10	Sale Sept 14	
I. X. L., Alpine co., Aug. 20, $1.50	Sept. 19	Oct. 7*
I. X. L., Alpine co	Annual Meeting Sept. 10*	
Imporial, Storey co, Nev., div	Payable June 18	
Kentuck, div., $30 per share	Payable Aug. 10	
Kearsarge, Inyo co., Aug. 4, $	Sept. 4	Sept. 21*
Lady Aryan, Storey co., July 25, $10	Sale Sept. 25	
Morning Star, Alpine co., July 15, $2,50	Aug 17	Sept. 7
N. A. Wood Preserving Co., Sept. 3, 50c	Oct. 5	Oct 27*
North Star, dividend, $5	Payable Aug. 10	
Pacific Unassessable, div	Payable June 18	
Rattlesnake, Yuba co., Aug. 7, $2	Sept. 10	Sept. 28*
Rose Linda, Alpine co., July 25, $50	Sept. 1	Sept. 16
Rising Star, Idaho Ter., June 23, $50	Aug. 8	Sept. 9
Silver Sprout, Inyo co	Special Meeting, Aug. 31*	
Silver Sprout, Inyo co, Aug. 4, $30	Sept. 4	Sept. 21*
Santiago, Silver City, dividend	Payable July 9	
Savage, Virginia, Nev, dividend, $15	Payable July 10	
Sand Spring salt, dividend $1	Payable June 5	
Virginia & O. H. Water Co	Dividend, payable May 15	

*Those marked with an asterisk (*) are advertised in this ournal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD.

FRIDAY EVENING, Sept. 4, 1868.

MISCELLANEOUS STOCKS.	Bid.	Asked.
United States Bonds, 5 20s	$ 77	78
Legal Tender Notes	70	70¼
California State Bonds, 7s, 1857	95	65
San Francisco Bonds, 10s, 1851	102	103
San Francisco City Bonds, 6s, 1855	—	—
San Francisco City and County Bonds, 6s, 1858	85	90
San Francisco City and Co. Sch'l B'ds, 7s, 1866	90	—
San Francisco City and Co. Bonds, 7s, 1862	85	—
San Francisco City and Co. Bonds, 7s, 1864	84	85
San Francisco City and Co Bonds, 7s, 1865	84	85
San Francisco City and Co. Judg. Bds. 7s, 1863	84	85½
San Francisco City and Co. Judg. Bds, 7s, 1864	8½	—
Sacramento City Bonds	28	25
Sacramento County Bonds, 6s	70	—
Marysville Bonds, 10s	75	85
Stockton City Bonds	70	80
Yuba County Bonds, 8s	77	80
Santa Clara County Bonds, 7s	72	80
Butte County Bonds, 10s, 1860	70	75
San Mateo County Bonds, 7s	75	—
California Steam Navigation Co	63	69
Spring Valley Water Co	66	67
State Telegraph Co	25	29
GAS COMPANIES.		
San Francisco Gas Co	77	78
Sacramento Gas Co	—	75
RAILROADS.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	80	—
Central Railroad	55	58
North Beach and Mission Railroad	—	75
Front Street, Mission and Ocean Railroad	11	12
BANKING INSTITUTIONS.		
California, Loan and Savings Society	—	—
Pacific Bank	97½	100
The Bank of California	157	158
INSURANCE COMPANIES.		
Firemans' Fund Insurance Co	85	86
Pacific Insurance Co	118	—
San Francisco Insurance Co		105
Merchants' Mutual Marine Insurance Co	470	483
California Insurance Co	1300	1400
Union Insurance Co	99	90
California Home Insurance Co		—
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	79	80
National Insurance Co	—	—
Builders' Insurance Co	90	—
MINING STOCKS—WASHOE DISTRICT.		
Alpha	55	55½
Baltimore American	—	—
Belcher	170	—
Bullion, G. H	19	20
Crown Point	70	71
Confidence	37½	39
Chollar-Potosi	175	176
Challenge	2	7
Exchequer	16½	17
Empire Mill and Mining Co	120	—
Gould & Curry	104	105
Gold Hill Quartz	58	65
Hale & Norcross	77½	78
Imperial	112	112½
Kentuck	420	425
Lady Bryan	18	—
Ophir	20	21
Overman	87½	88
Savage	109½	110
Sierra Nevada	24	25
Yellow Jacket	1260	1265
Golden Rule, California	10	—

San Francisco Market Rates.

Wholesale Prices.

FRIDAY, Sept. 4, 1868.

Flour, Extra, ₱ bbl	$5 75	@$6 50
Do. Superfine	5 25	@ 5 50
Corn Meal, ₱ 100 lbs	3 25	@ 3 50
Wheat, ₱ 100 lbs	1 75	@ 1 95
Oats, ₱ 100 lbs	2 35	@ 2 50
Barley, ₱ 100 lbs	2 15	@ 3 00
Beans, ₱ 100 lbs	3 00	@ 3 00
Potatoes, ₱ 100 lbs	90	@ 1 00
Hay, ₱ ton	10 00	@15 00
Live Oak Wood, ₱ cord	9 00	@10 00
Beef, extra, dressed, ₱ lb	8	@ 10
Sheep, on foot	3 00	@ 3 25
Hogs, on foot, ₱ lb	8	@ 9
Hogs, dressed, ₱ lb	8	@ 9
GROCERIES, ETC.		
Sugar, crushed, ₱ lb	14¾	@ 15
Do. China	10	@ 11½
Coffee, Costa Rica, ₱ lb	15½	@ 16
Do. Rio	—	@ 17
Tea, Japan, ₱ lb	75	@ 90
Do. Green	80	@ 1 25
Hawaiian Rice, ₱ lb	—	@ 8
China Rice, ₱ lb	6	@ 6¼
Coal Oil, ₱ gallon	35	@ 40
Candles, ₱ lb	15	@ 17½
Ranch Butter, ₱ lb	40	@ 50
Isthmus Butter, ₱ lb	30	@ 35
Cheese, California, ₱ lb	13	@ 18
Eggs, ₱ dozen	58	@ 60
Lard, ₱ lb	13	@ 15
Ham and Bacon, ₱ lb	12	@ 1
Shoulders, ₱ lb	6	@ 8

Retail Prices.

Butter, California, fresh, ₱ lb	60	@ 75
do. pickled, ₱ lb	30	@ 40
do. Oregon, ₱ lb	15	@ 25
do. New York, ₱ lb	35	@ 40
Cheese, ₱ lb	20	@ 25
Honey, ₱ lb	25	@ 30
Eggs, ₱ dozen	60	@ 75
Lard, ₱ lb	15	@ 17
Hams and Bacon, ₱ lb	20	@ 25
Cranberries, ₱ gallon	85	@ 1 00
Potatoes, ₱ lb	2	@ 3
Potatoes, Sweet, ₱ lb	3	@ 5
Tomatoes, ₱ lb	3	@ 5
Onions, ₱ lb	3	@ 5
Apples, No. 1, ₱ lb	4	@ 5
Pears, Table, ₱ lb	5	@ 7
Plums, dried, ₱ lb	11	@ 13
Peaches, dried, ₱ lb	—	@ —
Oranges, ₱ dozen	75	@ 1 00
Lemons, ₱ dozen	1 00	@ 1 50
Chickens, apiece	50	@ 75
Turkeys, ₱ lb	20	@ 25
Soap, Pale and C. O	7	@ 12
Soap, Castile, ₱ lb	15	@ 16

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

FRIDAY, Sept. 4, 1868.

IRON.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1¾c ₱ lb; Pipe, 1¾c ₱ lb; Galvanized, 2¼ ₱ lb.

Scotch and English Pig Iron ₱ ton	$34 00	@$35 00
White Pig ₱ ton	34 00	@ 35 00
Refined Bar, bad assortment, ₱ lb	— 03	@ — —
Refined Bar, good assortment, ₱ lb	— 04	@ — —
Boiler, No. 1 to 4	— 04¾	@ — —
Plate, No. 5 to 9	— —	@ — 04¾
Sheet, No. 10 to 13	— 04¾	@ — 5
Sheet, No. 14 to 20	— 05	@ — 5¼
Sheet, No. 24 to 27	— 05	@ — 6¼
COPPER.—Duty: Sheathing, 3¾c ₱ lb; Fig and Bar, 2¼c ₱ lb		
Sheathing, ₱ lb	— 28	@ — 25
Sheathing, Yellow	— —	@ — 22
Sheathing, Old Yellow	— 11	@ — —
Bolts	— 21	@ — 22
Composition Nails	— 21	@ — 22
TIN PLATES.—Duty: 25 ₱ cent. ad valorem.		
Plates, Charcoal, IX, ₱ box	12 50	@ 13 00
Plates, I C Charcoal	11 00	@ 11 50
Roofing Plates	10 50	@ 11 00
Banca Tin, Slabs, ₱ lb	— —	@ — 30
STEEL.—English Cast Steel, ₱ lb	— —	@ — 15
QUICKSILVER.—₱ lb	— 55	@ — 60
LEAD.—Pig, ₱ lb	— 7½	@ — 8
Sheet	— 10	@ — —
Pipe	— 11	@ — —
Bar	— 9	@ — 9¼
ZINC.—Sheets, ₱ lb	— —	@ — 9¾
ANTIMONY.—California, ₱ lb	— 20	@ — 23

San Francisco Prices of Copper Ores.

SAN FRANCISCO, Sept. 4, 1868.

We give the following as an approximate price at which copper ores can now he sold in this city. There is no sale for ores which assay leas than 12 per cent. The late reduction in prica is on account of the advance of freight:

		Per ton.			Per ton.
12 per cent. ore	$16 00	22 per cent. ore	$43 56
13 " "	18 62	23 " "	48 45
14 " "	20 20	24 " "	49 33
15 " "	23 35	25 " "	52 22
16 " "	28 23	28 " "	55 11
17 " "	29 12	27 " "	58 00
18 " "	29 91	28 " "	60 80
19 " "	34 90	29 " "	63 77
20 " "	37 78	30 " "	68 66
21 " "	40 67	31 " "	69 55

These prices, we believe, will he found substantially correct, and can ba realized at this date.

EMBOSSED LETTERING.—Some very fina specimens in the way of signs, of emhosaad lettering on glass, are on exhihition by Messrs. Noble & Gallagher, housa and sign painters, 437 Jackson street. The difference between this atyle and the ordinary gilding, is, that tha letters are raised, and cannot be effaced. The gold is much richar in appearanca, and at the same time far more enduring and beautiful, while tha cost for the naw styla is but a small percentaga in advanca of tha ordinary gilt. That beautiful sign of H. M. Nawhall & Co. is axacuted in this way, and is done in the finest styla of the art. Tha plain gilt aigns of this firm are clear, bold and solid in the lattering, in this respect in striking contrast with much of aimilar work to ba seen throughout the city. Tha three splendid sampla letters, B A T, were inadvertently attributed by our reportar to H. M. Newhall & Co., instaad of to Messrs. Nohla & Gallaghar, the exhibitors.

SPIRIT LEVELS.—P. Qnigley, 922 Market street, has a case of tools at tha Fair which is well worthy of mention among our minor home manufactures. We would call spacial attention to his spirit levels, every part of which, including the glass tuhea, is turned ont by his own hands, and owing to their acknowledged excellenca hava nearly supplanted the imported articla. Tha alcohol used is of the very baat quality. Thay ara consaquently much mora sensitiva than similar levals in the market in which banzine or common apirits hava bean used. They are made of California laurel, and Mexican rosawood and mahogany, preasnting a finished and workman-like appearance.

WHAT is that which can often he found whera it is not? Fault.

Mining Summary.

THE following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County.

Markleeville *Union*, Aug. 22d: The contractor on the Mt. Bullion tuanel hopes to fiaish his first 500 ft. in four or five weeks more.

Chronicle, Aug. 22d: Yesterday afternoon a large body of fine looking quartz was struck in the Rippou tunnel in this towa. The ledge was run iato a distaace of two feet. If this strike proves as good as anticipated, the compaay will erect a mill immediately.

Amador County.

Jackson *Ledger*, Aug. 29th: Prospectiag on Old Bob's quartz claim in Walker's field is being pushed forward vigorously, and every day looks better and better. They now have a ledge 10 ft. wide, and the rock shows a great deal of free gold.

The chloriaation works at the Coaey & Bigelow mine are agaia in operation. The new furnace stands the heat well, and we expect shortly to record a handsome yield from the sulphurets taken from that mine.

Butte County.

The *Bulletin* of this city of Sept. 20th, has the following: We have been shown a round water-worn cobble of quartz, about twice the size of a dumpling, thickly veined and nearly one-half covered with gold, which was found last Friday in the Lincoln tunnel, at Indian Springs, Butte County, about 1,100 feet back in the drift, 2,500 ft. below the top of the hill, and 800 above the bed of the Big Butte Creek. This cobble contains about five pounds of gold, of a quality worth $18 per ounce, and its total value is probably abont $1,080. The owner of the mine from which this nugget came is Robt. Kirk, and he states that he has in the dump, gravel that will yield $4,000 as soon as water can be had to wash it out.

Calaveras County.

Mokelumne Hill *Chronicle*, Aug. 29th: The Rich Gulch correspoadent writes:

Mr. Staple is pushing things with an energy that is truly amazing. Iadependent of the regular force of miners, whim tenders, mill feeders and others, a large number of men are employed under Milo J. Ayer, erecting another battery of 8 stamps, making 16 when completed. Another large farce of men under the superintendence of S. A. West, are engaged iu erecting sulphuret works which are expected to be completed and in operation by the first of September.

Adjoining are the works of Alexander & Co., who have just completed their hoistiag works and have resnmed sinking their shaft, now 120 ft. deep. The ore uow beiag extracted from the mine is of a higher grade than ever.

Next to Alexaader & Co., north, is the claim formerly known as the Norton claim, now owned by Mr. Smith, of Grass Valley, who bas let a contract to run the tunnel 60 ft. further, and the work is already progressing.

Lamphear & Co. have again commenced work on their claim in Spring Gulch. The water in the shaft is being pumped out preparatory to the resumption of active operations. The shaft which has been sunk ou the claim is 130 ft. in depth, and a lead six ft. in width developed at that distance.

The "Petticoat" mine, at Railroad Flat, "pans out" better than that indispensable article of female attire ever was known to do before. Some rock recently crushed from that lead yielded $150 per ton. As the shaft descends the vein increases, both in width and richness. Mr. Said, the proprietor, is pushing forward work upon the claim, and will soon have it in a condition to commence takiag out ore in good earnest. As soon as this is accomplished a large mill will be erected. As the proceeds of a run of about two weeks, with eight stamps, Mr. Said brought to this place yesterday 102 lbs. of gold dust.

A dispatch to the Marysville *Appeal*, dated San Andreas, Aug. 29th, says: The Union copper mine, situated at Copperopolis, was sold to day at Sheriff's sale to Glidden & Williame for $121,251 iu currency, or $118,954 in coin.

Kern County.

Havilah *Courier*, Aug. 25th: We take pleasure in annouacing the discovery of a vein of surpassingly rich quartz in the Relief mine. The ore is literally bespanged with gold, and there is now every prospect that the long cherished hopes of the owners and workers of the Relief lode will be realized. This discovery not oaly promises a fortune to the company, but gives encouragement to all engaged in miaing enterprises in this couaty. It is not possible that this is isolated, and it is the deliberate opinion of well-informed parties that there are many other lodes of equal richness when the proper depth is reached.

Mariposa County.

Mail, Aug. 28th: Our mouatain correspoadent, writing uader date of August 24th, says: We visited the newly discovered quartz mine knowa as the "Harbour Miae," on the Buckingham Monntain. The vein is about nine feet in width, and has the appearance of good pay rock. Some of the timbers of the proposed mill are already prepared.

Gazette, Aug. 28th: The contract for lumber to build the dam at Benton Mills, was let last week to Smith, Dudley & Co., of Coulterville; the amount is $15,000, with a forfeiture of $250 per day if the lumber is not delivered ia the time mentioaed in the coatract.

Nevada County.

Transcript, Aug. 26th: The Lower Channel Co. has located 3,000 ft. ia the channel of Squirrel Creek, in Pena Valley. This ground is located immediatcly below the Chanael Co's location.

Aug. 27th: A rich quartz lead was struck by Williams & Co., ou Peck's raviae, on Monday last. The ledge was worked some 12 months siace and first rate prospects were obtained. They crushed 60 or 70 tons and it paid from $15 to $23 per toa, but water coming in on them, and beiag poor mea, they had to suspend operations. A short time since the parties commenced sinking a shaft, and struck the ledge 26 ft. below the surface. The ledge at this point is considerably decomposed, but is well defiaed and five feet wide. They have taken out two tons of rock going through the ledge. We saw a prospect from one-fourth a pan of quartz valued at about $2. If the ledge holds out as good as it looks, by the time they reach water they will have enough to pay for machinery.

R. C. Black has been wasbing in his claim at Bloomfield this season with first rate success. He is now engaged in cleaning up the tail-sluice and building walls in order to confine the water to the chanael for effective work when the raias come on.

Gazette, Aug. 27th: The last clean-up of the Eureka, after a run of two weeks on a comparatively poor class of rock yielded $19,300.

The average yield of the ore from the Idaho mine is $47 per ton.

Grass Valley *National*, Aug. 25th: The Forest Spring mines, notwithstanding little noise is made about them, continue to be quietly worked, and to yield well to their owaers. At Perrin's mine they are sinking, and are down 300 feet on the incline. The rock shows well. The Grant ledge, which is being worked on shares, continues to produce excelleut rock. The last crushing yielded $75 per ton. The Shamrock is not as yet much developed, the miners only being down about 25 feet, but they are taking out good rock, and the mine has paid from the surface.

Aug. 27th: The Hope Gravel Co. have sunk a shaft to the depth of 214 feet, and are now runniag two drifts; one under the gravel through the bedrock, for the purpose of drainage, and another, the West drift, to strike the main gravel channel. This latter drift is now 200 feet in extent, and it is expected that the gravel will be struck after runniag about 100 feet further. At the present rate of progress, this will take about four weeks. Not much gravel is being taken out at present, but what there is prospects finely. The gravel is broken up aad ground by a mill, workiag on the principle of the old arastra, which pulverizes it so that when it passes into the sluice-boxes, every particle of gold is at once seized by the quicksilver aad saved. This mill is carried by a small steam engine of 16-horse-power.

Grass Valley *Union*, Aug. 26th: The Banner Co. of Nevada City have resumed work, their new boiler for the hoistiug works beng placed in position.

Aug. 29th: The new ditch, which the Bloomfield Co. is coustructing, demands 1,000 additioaal laborers, and the company are hiring all the Chinamen they can get.

EXCELSIOR.—*Transcript*, Aug. 30th: A private letter recently received in this city from Meadow Lake, states that the Mohawk & Montreal Co. are now taking out better rock than had been obtained siuce the district.

Transcript, Sept. 1st: The Rising Star mine, on Deer Creek, is yielding very rich quartz. We were shown yesterday a specimen which measures more than a foot in diameter. It was streaked with pure, bright aud glistening gold. The ledge is about three feet in thickness, aud the richest rock is of the character of the specimen just mentioned. The second grade of ore contains more sulphurets but pays well. The specimen was taken from the new incline, 260 feet below the surface.

Gazette, Aug. 31st: A fine specimen of gold-bearing quartz was brought to the Union Hotel on Saturday. The specimen weighs some 70 or 80 pounds, and the free gold shows beautifully. The ledge is affording most excellent ore, mostly of the sulphuret character. The owners have out now nearly 200 tons, which is being hauled to mill, and will soon be crushed.

Placer County.

Herald, Aug. 29th: Sincox & Co., who own the galena ledge, on Antony Ravine, had 15 tons of surface rock crushed at the St. Lawrence mill, below Ophir, some 10 days ago, which yielded $20 per ton in free gold. This company have now at Schnable's mill, some 18 tons of their rock.

Dutch Flat *Enquirer*, Aug. 29th: All the mining claims of this vicinity have suspended operations for the present season, the last one, the Jehosephat, hauled off during the early part of the week. Mr. Beals has quite a number of men engaged cleaning up his large flume in the canon below town, and when this is finished the mining hereabouts will be confined to preparing for the coming season. The Jehosephat paid during the last run, at the rate of $100 per day.

At last, prospects are fair for the erection of a mill on the blue lead.

Plumas County.

The North Fork correspoudent of the Quincy *National* of Aug. 22d, says: Balliette & Boston are preparing to work the Last Chance Claims at Bamboo Bar. John McBeth is fitting up to work the ground where his store now stands on Marion Flat. The Brewster Bros. have sold their claims on Red Rock, and gone east. On Dutch Hill the miners are all busy. The Dutch Hill Co. are doing well. Benham & Bly are taking out some rich dirt. Wagoner & Ferguson, Mechlin, aud Bryan & Emmons are all taking out some gold.

Turner, Reynolds & Co., of Black Hawk, cleaued up this week the sum of $1,600.

Sacramento County.

Folsom *Telegrayh*, Aug. 29th: A couple of miners at Willow Spring Hill, recently washed up the sum of $5,400.

Sierra County.

Downieville *Messenger*, Aug. 30th: The Monumental claim ot Howland Flat, is reported as still paying well.

The owners of the Hawkeye claim at Howland Flat have commenced the excavation of a drain tunnel, which will tap their well known rich ground at its lower end.

Siskiyou County.

Yreka *Union*, Aug. 29th: The Trinity Valley correspondent writee: The mining prospects of this place are very good, and many places are satisfying the highest expectations of their fortunate owners. James Murray has just reached the pay streak in his claim, a little south of Trinity Center, aud from all indications he is destined to take out good pay.

Tuolumne County.

Sonora *Democrat*, Aug. 29th: On Friday afternoon, the quartz mill of Fry, commonly known as the "Fry & Comstock Mill," caught fire, and was entirely consumed. This mill was situated at the Fry & Comstock Mine, near Calder's Ranch, iu the mountains, about 10 miles east of Sonora. It was run by steam and worked 10 stamps. Insured for $6,000.

A party is about to prospect the head waters of French Creek, in the New River range.

Yuba County.

Marysville *Appeal*, Sept. 1st: We saw yesterday at Knight & Co.'s assay office, a golden brick containing nearly $5,000 from the Pennsylvania Mine at Brown's Valley. The company are taking out from $400 to $500 per day.

COLORADO.

Central City *Herald*, Aug. 12th: H. B. Barstow, of Lake Gulch, has commenced the erection of a 20 stamp mill, on the Smith & Chaffee mill site. He is still prosecuting work on the Bobtail lode, and has had a very heavy cap-rock to work through.

Gregory Mill No. 1—20 stamps—started up yesterday morning, on ore from the Black Hawk Co's claims on the Gregory.

The Pleasant Valley G. M. Co., Russell Gulch, have the breaks in their gulch claims repaired, and will soon resume gold shipments. This morning Mr. Owens brought down 40 oz. of gold for shipment, the product of last week's run. Their production of gold for the week ending Aug. 1st, amounted to 130 ozs. Above them, William Queen, White & Co., and others, are prosecuting work with success.

Thos. H. Craven struck it last week on South Clear Creek. They have found the pay streak in the old channel of the creek, and have enough ground to keep them engaged for years. The Dr. brought over about six oz. of the most beautiful augget gold we have ever seen.

The Lexington mill is being run from surface quartz from different lodes. From a cord of ore from the Seymour lode, run through last week, there was cleaned up nine ounces, seven penny weights and three grains of gold. It was very bright gold, and brought $22 per ounce. The shipment of gold from this place for the month of July amounted to $366,250.

At Peru, Daly is working the National Treasury lode, which looks well....Dr. Laptoa has boaght Negro gulch, including Lead lode, for $15,000....The Virginia lode, in Pollock district, head of Blue river, is being worked, and is paying well. They have a stamp mill there....Capt. Walker expects to start his mill in Finder gulch, shortly....At Montezuma, Capt. Slawson has "struck it big" in his tunnel....Gov. Steel has discovered the lode which furnished the gold to Delaware Flats and Hughes gulch.

Central City *Register*, Aug. 12th: The great excitement concerning the new discoveries at the head of Bard Creek continue.

A bar of silver nearly pure, worth $770, is on the counter of the banking house of Geo. T. Clark & Co. It was extracted from the ores of the Astor lode, by the German reduction works, Georgetown. A finer looking bar has not been extracted in Colorado.

Matt France informs us that the new mines above Empire and south of Clear Creek, are very rich and have very wide veins, the width running from 5 to 20 ft., while the assays run up high into the thousands. Sulphurets of silver and ruby silver are found on the surface.

Cooper, Craven & Branch, at South Clear Creek, have again struck rich pay in their claim just below the Spanish Bar bridge.

From the 6th of July to date the German Reduction Works, at Georgetown, shipped 13 bars of silver bullion, weighing 5,697.47 ozs., worth $5,317.33.

Denver *News* Aug. 12th: Clark & Crow have out another half dozen tons of Terrible ore, worth between $4,000 and $5,000.

A new discovery has been made near Red Mountain, in the forks of Clear Creek, which is creating considerable excitement.

In California gulch, Burt Bros. have made a clean up, which yielded at the rate of 1¼ oz. per day to the man.

Burt & Lumkin have cleaned up 10 ozs. from 12½ days' work.

DACOTAH.

The Idaho *World* says: Mr. Wright, an old pioneer of Boise Basin, left Sweetwater about a month ago. He pronounces the mines of that region, both quartz and placer, to be of a very inferior class. Big reports had attracted thousands of people there, but almost general failure in finding anything like good paying mines, has thinned down these thousands to an exceeding'y sparse number. Three months ago there were between 5,000 and 6,000 souls in that region; when Mr. Wright left there were not more than 100 in all. Among these were Comstock (of Washoe fame), and Dr. Wilson, formerly of this Basin, who had small claims which paid only about $5 per day. The area of the mining district does not exceed ten miles square. The miners are about half Geatiles and half Mormons Chas. Tozer, an old California miner, has a five-stamp quartz mill in operation, crushing custom ore, but with small profits, and indifferent prospects.

Sweetwater Mines, August 8th: In a late issue of the PRESS we published an item clipped from an Idaho exchaage, stating that this paper was defunct. We are pleased to note its appearance, which refutes the former statement, especially as it contains some interesting mining items. [EDS. PRESS.

The six-stamp quartz mill owned by Tozer, Roberts & Co., after a run of a little over a week, crushing 162 tons of ore, made a clean-up yesterday, and obtained results highly satisfactory to all parties concerned.

The Bob Tail Ledge, in Shoshone District, upon which a shaft is sunk to the depth of twenty feet, and 6 by 8 feet in width, is well defined with both wall rocks in view. The ore is of the first quality, although it does not exhibit as much free gold as many other ledges here, yet a good prospect can be obtained from any of the quartz which has been taken out.

Pease & Co. are erecting an arastra on Rock Creek, near Atlantic City, to crush the quartz taken from the Cariboo ledge, which will be completed and at work next week. The ore from the Cariboo is very rich indeed.

IDAHO.

Owyhee *Avalanche*, August 15th: Dan Powers and partner, in overhauling the

refuse material at Golden Chariot dump have, with a set of sluices and a small head of water, managed to make $1,200, besides saving 9¼ tons of ore, which has been worked in the Wehfoot mill, yielding the sum of $2,438.

John Donavan has discovered a large and rich ledge, opposite Webfoot Gulch. It is called the Peru, and is 3½ or 4 feet wide.

The Wehfoot mill is now running on Woodstock ore with encouraging paying prospects.

The Cosmos mill will start up the beginning of next week on ore from the first south extensive of the Silver Cord.

The Ida Elmore Co. have stopped work on the mine for a few days—until their new hoisting works can be erected and put in working order.

August 22d: The Iowa and Idaho Mining Co. have resumed operations in Flint.

A party is now being organized in town for the purpose of prospecting the country in the vicinity of Goose Lake, Upper Pitt River and thereabouts, for both quartz and placer diggings.

Work is now briskly progressing on the Oro Fino mine. On the dump there is a good heap of ore.

Work has been resumed on the Surplus Oro Fino. The small steam engine recently used at the Ida Elmore is now employed on the Surplus.

World, August 19th: We saw 283 ounces of gold dust, the yield of 40 days' run, by 4 men, in the claim of the Ward Bros., near Warren's; but this was deemed a very rich clean up. The average wages are from $5 to $8 per day to the hand. The dust is all nicely cleaned throughout the camp, and readily sells at $13 per ounce.

MONTANA.

Helena *Post*, Aug. 21st: Prof. Steitz, at the First National Bank Assay Office, yesterday smelted 938 ounces of gold, valued at $18,239 in coin. Among this was the gold from the Cabin ledge, which after smelting, weighed 356,65 ounces, was .903 fine, and worth, $6,657 46 in coin.

Nearly two miles of Silver Creek Gulch is owned by three drain ditch companies, two of which are making average runs of from ten to twelve dollars per day to the hand. The third has not yet reached bed rock, but its ground prospects well.

Samuel Hauser informs us that the mill of the St. Louis & Montana M. Co. at Phillipsburg, is extracting daily from the ore $1,000 worth of silver.

A correspondent from Radersburg writes: "We want 300 good men to prospect in the Big Horn and Wind River Mountains. For several years the country referred to has been thought to be one of the richest in America.

Mr. Gibson, of Hog 'Em, informs us that water at that place is plenty, and that the mines are paying well.

Virginia *Democrat:* The "Cedar" lode, recently discovered in the Silver Star, prospects, in exceptional cases, $15 to the pound. Everett's mill, in the same district, is nearly completed, and will soon commence crushing on the Green Camphell Lode.

The Deer Lodge *Independent* gives the following: The Carihoo Co. have several strings of sluices in operation, each paying from $100 to $200 per day. New diggings have been struck in Boomerang Gulch, which well pays to wheel the dirt for purposes of washing. Bed rock has been struck in Uncle Ben's Gulch, and a prospect of $1 75 to the pan obtained. Times lively at Highland. New diggings discovered this side of Gold Creek. Newly opened mines paid at the first run all expenses, with water at 22 cents per inch, and netted a profit of $10 per day to the man. Stampeders are passing through Missoula in large numbers on their way to new mines, supposed to be in the Bitter Root district. Mining has almost entirely ceased at Butte for want of water.

NEVADA.

Esmeralda.

Aurora *Union*, Aug. 22d: From Pine Grove we have the following: The companies which have been at work during the spring and summer continue their operations, and are contented with the yield of good paying rock. The camp holds its own very steadily, and there is no disposition to create unnecessary excitement. Only two mills are running at this time, and the shipment of bullion from these foots up from $4,000 to $6,000 per week.

Humboldt.

Unionville *Register*, Aug. 22d: The Elmira Silver Bullion Co. will soon be prepared to go forward with the development of the mine.

Winnemucca *Argent*, Aug. 27th: The shipment of Golconda bullion on the 15th, was 163 lbs., and on Saturday last another shipment was made of 165 lbs. In each case 16 ozs. to the pound.

Reese River.

Austin *Reveille*, Aug. 22d: For the week ending this date, there were produced at the Manhattan mill 51,867 ozs. of crude bullion.

Aug. 24th: Little lots of bullion were brought into the city to-day as follows: 982 ozs. from Ione, 1,638 ozs. from Columbus, and 1,184 ozs. from San Antonio.

The Eberhardt South, in White Pine district, is yielding ore of wonderful quality. Its owners have had 15 tons reduced at the Centenary mill, the assays of the pulp of which ranged from $1,330 to $1,389 per ton, and they claim to have 200 tons of similar ore ready for the mill. The reports from the district represent the claim as looking better than ever, and that great bunches of rich ore were in sight.

A ledge has been cut in the Toyahe Co's mine, and shows ore of a high grade.

Aug. 15th: The hoisting works at the Hattie mine at Yankee Blade has been purchased and will be transferred immediately to the Chase mine.

There is a good deal of amalgam and quicksilver lying around loose in this cañon, quantities of which are occasionally picked up by the skillful and industrious. Within the past few days some Mexicans obtained from the bed of the cañon about 50 lbs. of quicksilver, besides washing out amalgam enough to yield a bar of silver of the value of $70.64.

We saw to-day at the National Bank lots of half dollars, which were the coinage of bullion produced by the Hidden Treasure mine in the district of White Pine. The first ore was taken from the mine less than 90 days ago.

Aug. 26th: From White Pine we learn that good ore is accumulating in a number of dumps, and the owners are looking forward for the completion of Page's mill to convert it into silver bars. All the machinery for the mill had been delivered on the ground.

Yesterday afternoon 12 bars of bullion arrived in this city from the Centenary mill. The bullion is of the average fineness of 851, and is valued at $13,800. It is the product of ore from the Eberhardt South, in the district of White Pine.

Some 19 tons of ore produced by the Garrison mine in the district of Cortez, which were reduced last week at the Manhattan mill, gave the average yield of $763 per ton. The ore from that mine appears to improve in quality as depth is attained.

Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Virginia *Enterprise*, Aug. 28th: The body of ore found in the Imperial mine in sinking a winze from the 700-ft. level to the 900-ft. level still holds out. The deposit is likely to prove of much valve.

Aug. 29th: During the past week there was shipped from this city and Gold Hill, 10,341 lbs. (a little over 5 tons) of assayed bars of bullion, worth $262,897.51.

Aug. 30th: The Sierra Nevada Co. cleaned up yesterday, after having made their first run with their new mill. It is the opinion of the Superintendent that the yield per ton will be between $16 and $17. A portion of the bullion extracted has been sent to California, and the remainder is still in the retort. The amount of ore crushed was 400 tons.

Sept. 1st: The Gould & Curry shaft is now down 1,050 ft., and yesterday morning struck into vein matter of a very favorable appearance. The dirt coming out contains much quartz that has the appearance of containing metal. The ground in which they are at present at work is composed too largely of soft decomposed vein matter to admit of a level being opened in it, and sinking will be continued until a more solid region is reached, when drifting will be commenced.

Trespass, Aug. 29th: Dispatched from Wells, Fargo & Co's office in Virginia, this morning, eight bars of bullion, weighing 562 lbs., and worth $15,454.33.

Wells, Fargo & Co. dispatched another gold bar to San Francisco, this morning, of the value of $1,268.70.

The new mill of the Sierra Nevada Co. was cleaned up yesterday. The first run consisted of 400 tons of rock, which yielded $6,750, or $16.87 per ton, not including the sulphurets caught upon the blankets, which have not yet been cleaned up.

UTAH.

Salt Lake Evening *News*, August 15th: The work on Sharp & Young's contract, in Weber Cañon, is progressing, and the men are about to receive their first pay.

At what time should an innkeeper visit an iron foundry? When he wants a *barmaid*.

Mechanical.

Krupp.—The New York *Iron Age* translates an interesting letter from a gentleman in the employ of Mr. Krupp, at his mammoth steel works in Essen, Prussia, a portion of which we quote: "Until now, the steam power of nearly all the old rolling mills in Germany, England and France has been much too light for the work required of them. From day to day the demand for greater productions increases, and a large number of rolling mills cannot respond, because their steam power is not great enough. In my calibre rolling mill I roll out cast steel blocks of 5,000 to 10,000 pounds weight. [The Prussian pound is heavier than ours.—Ed.] I also manufacture daily 450 to 500 cast steel rails, of 5 cwt. each, thus making a total of one quarter of a million pounds per day. This quantity I roll out in twelve hours in a rolling mill with three rollers. As soon as the rails are cool they are placed on six straightening beds and carefully arranged; after that, twenty-four saws work in cutting off the raw ends. As soon as they are of an equal length they are perforated and sent away for transportation. The rails are made of Bessemer cast steel. The blocks are cast of a weight of 5,000 to 10,000 pounds. After casting, they are taken to a forge, where they are first placed in a furnace and then placed under a trip-hammer of 400 cwt. falling weight, and beaten into an octagonal shape. After this, I take the casts to my calibre rolling mill, when they are first brought to a red heat and then rolled out into bars seven inches thick and eight inches wide. These bars are about fifty feet in length. They are then again brought to red heat, and then placed in a forge, where they are divided into pieces of suitable size for rails. For a rail 21 feet in length I require about 530 pounds of raw steel; thus one ingot is divided into ten to twenty rails. I take the pieces to a rail rolling mill, heat them, and afterwards roll them out as before described."

Wire Cables.—The aggregate strength of the four cables in the suspension bridge below the Falls of Niagara is about 23,878,400 pounds. Each of them is ten inches in diameter and contains seven strands, each strand having 520 wires, of No. 9 wire gauge. In describing the manufacture of such cables the *American Artisan* says: "The very best iron is selected, and the bars are drawn down at a welding heat to wire about one-fourth of an inch in diameter. This is then cleaned in warm acidulated water with a little oil of vitriol, and being coated with a paste of rye flour, it is drawn through a succession of holes in a wire plate until it is reduced to the thickness of No. 5, when it is annealed by heating from five to eight hours, and is then cleaned and drawn down again until it is of the required degree of fineness. In general ropes are made of strands, each of which has three, seven or nineteen wires, the ropes having either nine, forty-nine or one hundred and eighty-eight wires. The important considerations in laying them up are to keep an equal tension in all the wires and to prevent their being twisted as they are laid into strands, and that the strands also should be equally free from twist as they are laid into ropes."

Improved Gas Engine.—The principle upon which the gas engine invented by Messrs. Mazieres and Trottier is based, consists in the condensing or cooling the burnt gases after their action on the driving piston. The object is to produce the vacuum behind the piston. This condensation takes place in a condenser, either by means of an injection of cold water, by surfaces cooled by a current of water, or by any other agent capable of producing cold. This engine may be of single or double action, with two or more cylinders, according to the work to be done. It is single-acting when the introduction of the gaseous mixture takes place only on one side of the piston, double-acting when it takes place alternately on each side. The distributing vessels are placed vertically at the extremity of each cylinder; they are set in movement by levers in connection with the horizontal shaft of the engine; they comprise a mixed gas chamber, an air reception chamber, a firing chamber, and an escape chamber, all provided with two orifices, each one communicating at the proper time with the cylinder of the engine. A pipe communicating with the escape chamber conducts the gases issuing from the cylinder to the condenser, whence they are expelled by means of an air pump.

Scientific Miscellany.

Reflected Light.—In a recent lecture delivered by Prof. Henry Morton, at the Philadelphia Academy of Music, before the Franklin Institute, and reported by the *Journal* of that Association, the difference between regularly and irregularly reflected light was illustrated in an ingenious and entertaining manner. The lecturer directed attention to a large mirror behind him. Upon this mirror, the vast audience saw itself, with its fair faces and fluttering fans, duplicated. A lighted candle was then held near it by the lecturer, to prove, if necessary, by its twin image, that the mirror was really a valuable reflecting surface. He then informed them, that there was beside, upon that mirror, a beautiful phantom form,—invisible to him as well as to them,—but which would reveal itself if granted the protection of "this delicate white veil, which, as you see, is itself void of any marking upon its filmy surface." The veil was then, by an assistant, dropped in front of the mirror, and by means of a rod held closely against its surface. At once a beautiful figure of Ariel appeared.

The explanation was as follows: A magic lantern at one side, in full view of the audience, had been all the time projecting the image upon the mirror, at such an angle that it was thrown off obliquely and lost behind the side scenes;—the angle of reflection being equal to the angle of incidence, and the surface being one which was capable of regular reflection. But the veil changed this surface into one whence the rays were irregularly reflected, and scattered in all directions;—so that some from each point could reach the eyes of every one of the audience.

Rapidity of Chemical Action.—A. Vernon Harcourt, Esq., M. A., contributes an article to the London *Artizan*, on the rate at which chemical action takes place. The examination of different examples of such action, with certain experiments which he has performed, have led him to the following conclusions:

1. The rate at which a chemical change proceeds is constant under constant conditions, and is independent of the time that has elapsed since the change commenced.
2. When any substance is undergoing a chemical change, of which no condition varies, excepting the diminution of the changing substance, the amount of change occurring at any moment is directly proportional to the quantity of the substance.
3. When two or more substances act one upon another, the amount of action at any moment is directly proportional to the quantity of each of the substances.
4. When the rate of any chemical change is affected by the presence of a substance, which itself takes no part in the change, the acceleration or retardation produced is directly proportional to the quantity of the substance.
5. The relation between the rate of a chemical change occurring in a solution, and the temperature of the solution, is such, that for every additional degree the number expressing the rate is to be multiplied by a constant quantity.

Lyell and Darwin.—In the tenth edition of his "*Principles of Geology*," recently published, Sir Charles Lyell adopts the doctrine of Darwin in regard to the origin of species. The book has been completely rewritten, and the opinions expressed in some instances essentially modified. In speaking of the reptiles, the author refers to the fact that some of the fossil groups are of a higher order than the types now in existence, giving "an example of a class which gradually advanced till it reached a culminating point, from which it has ever since been retrograding." Sir Charles concludes as follows:—"We have been fairly led, by palæontological researches, to the conclusion that the invertebrate animals flourished before the vertebrate, and that in the latter class, fish, reptiles, birds and mammalia, made their appearance in a chronological order, analogous to that in which they would be arranged zoölogically, according to an advancing scale of perfection in their organization.

Mining and Scientific Press.

W. B. EWER,.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

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WRITERS should be cautious about addressing correspondence relating to the business or interests of a firm to an individual member thereof, whose absence at the time might cause delay.

Our Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1868.

Dr. L. G. Yates is our duly authorized traveling agent. July 6, 1867.

Mr. A. B. Butler is a duly authorized traveling agent and correspondent for this paper. July 15, 1867.

Resident Agents.

CENTRAL CITY, C. T.—Messrs. Richards & Crane, of the City Book Store, Main street, will act as our agents.

GEORGETOWN, C. T.—John A. Lafferty, Postmaster, is our agent in this place.

DENVER CITY, C. T.—Messrs. Woolworth & Moffat, are our agents for this place.

CHEYENNE, D. T.—Mr. Robert Beers is our authorized agent for this place.

OMAHA, N. T.—Messrs. Barkalow & Brothers, are our agents for this place.

San Francisco:
Saturday Morning, Sept. 5, 1868.

Notices to Correspondents.

X. PLAIN.—The manufacture of concrete stone is very simple; the sand, chalk, or other mineral substance is mixed with a proper proportion of a solution of silicate of soda in an ordinary pug-mill, after which the mixture, which very much resembles in substance fresh putty rolled in sand, and is of a very plastic consistency, is either pressed into blocks or molds, or can be rolled into slabs or forms as may be desired. It is afterwards either saturated with, or immersed in a solution of chloride of calcium, on which a double decomposition takes place,—silicate of lime and chloride of sodium (common salt) being simultaneously formed. The silicate of soda is manufactured in digesters,—in which are placed calcined flints or sand, and caustic soda of sp. gr. 1.120, and heated below by means of a coiled steam pipe, supplied from a high pressure boiler. When this operation has been continued some time, the soluble silica formed is passed into a reservoir, from which latter it is drawn as required into pans, by which it is evaporated to a specific gravity of about 1.7,—which it is found by experience will suffice to afford the degree of viscidity required for properly cementing the loose ingredients employed, into a hard concrete substance. The best stones are composed of finely sifted dry sand. A small quantity of pulverized stone, or carbonate of lime, is added to the sand, to give to the silicate of lime produced in the manufacture the necessary closeness of surface for its cementing action. To each bushel of the mixture, one gallon of silicate of soda prepared as above described, is added; the whole is then thoroughly incorporated in a mill, which occupies about four minutes. The plastic mass so obtained is placed in molds and rammed firmly by wooden implements into the interstices; by which means all the edges, etc., present sharp rigid appearances. The forms so molded are subjected to the spray of a cold solution of chloride of calcium, which rapidly hardens the mass. The castings are next immersed in a bath containing a solution of chloride of calcium of sp. gr. 1.4, and temperature of 212°. After the last described operation, the chloride of sodium is removed by placing the artificial stone beneath a spray of common water. Some other particulars will be found in our issue of 22d August.

PISCATOR, San Rafael.—Fish are at various times attacked with devastating diseases. At the present time the gudgeons in the Seine (France) are represented as dying in enormous numbers. At Windermere, the largest lake in England, the perch are suffering from a like abnormal mortality, so much so that the pike and trout are said to be gorging themselves to repletion, and the fishermen who have been in the habit of setting baited night lines for the purpose of catching the latter named fish, are unable to snare them by this, one of their ordinary means of fishing.

CARBON, W. and C. and H. C. next week.

CONTINENTAL Life Insurance Company, 302 Montgomery street, corner of Pine.

SCIENCE.—Too many young persons pass through the course of study laid down in the catalogue, and thereupon enter the world believing themselves, as they are frequently looked upon by others, to be finished scholars, whilst they may be sadly deficient in the more practical and useful applications of science. To be able to understand ourselves and our surroundings, a practical knowledge of the exact rules of cause and effect which govern matter, is requisite. We may understand and be able to give scientific reasons for ordinary phenomena which would need but the second thought of ignorance to elucidate; yet we are by no means finished scholars. The want of the times is a more thorough course in the practical application of the dry facts of science in our public schools, so that instead of turning out a vast number of half-educated and bigoted scholars, to be starved and kicked through the world as clerks, or members of the over-crowded professions, we may have a sufficient number of persons familiar with special branches to secure a speedy and thorough exploration and development of the country. This is admitted to be a matter of vital importance. To the youth who acquires such knowledge, its possession will be of incalculable benefit. It will open up new fields to him, in which he may practice his natural genius, and he is not compelled to travel in the old beaten track. Superstitious lore must give way to truths that are the result of practical toil and thought by the living and moving minds of the day.

HO FOR THE NORTH POLE.—The telegraph on Wednesday announced another proposed North Pole expedition by the United States, England, Russia, and perhaps Denmark—the countries pecuniarily interested in the ice of that country. Whether the recent unusual number of sunstrokes have had anything to do with this matter, is not reported. The United States own twenty degrees of longitude on the arctic circle, England owns eighty degrees, Russia one hundred and sixty-five degrees, and Denmark from forty to ninety-five degrees—the ground not having been definitely located, owing to the inconvenience thereof, and there is left open, accordingly, a most eligible opportunity for squatters of the cold blooded type. The German Petermann expedition started from Bergen, Norway, in May, in a little clumsy looking sloop, commanded by Koldoway, with the intention of getting to the north along the eastern coast of Greenland.

INTERESTING TO MILLMEN.—The display of screens at the Fair, by the San Francisco Pioneer Screen Works, is one of the most complete we have ever seen. Among them is an assortment of flour mill screens, of all sizes in use, punched remarkably clean, leaving no bur on either side, and with a degree of uniformity not usually observed in screens. The flour mill jacket is made from the heaviest sheet iron used for this purpose, the holes being elongated, as best adapted to the use for which it is designed. There is also samples of a new cut screen, that is claimed as greatly superior to any make ever before used, inasmuch as the iron is less weakened, and they will not rip or tear, or fill up, and can be made much finer than any punched screen. They seem in general favor, on account of their strength, cheapness and durability, being already in use in quartz mills in Idaho, Nevada, Mexico and various parts of California, giving universal satisfaction, as we are told by Mr. Quick, the proprietor and manufacturer. Parties interested should call at his manufactory, at the Vulcan Iron Works, Fremont street.

DISTINGUISHED VISITORS.—It is reported that Professor Agassiz, Senator Conklin, and a number of Representatives of Congress, will arrive in this city overland in a few days. Those who have had the pleasure of meeting the amiable Professor in his best excursional vein, will be delighted to learn of his advent amongst the seekers of gold and silver on our shores.

The California Powder Works.

Passing down the main aisle of the Pavilion, on the left, we notice the samples of the California Powder Works. The peculiar nature of their business will not allow them to exhibit any great amount of their manufactures. They have therefore to content themselves with mere samples, as a larger quantity might endanger the lives of visitors who daily flock to the Fair. But, unpretending as is their display, it represents one of the chief manufacturing interests of the Pacific coast, and from these samples we gather the information that the range of their manufacture extends through all the kinds and qualities of gunpowder, from the very highest toned rifle, including all the grades of sporting, pistol, musket, cannon, mining, blasting, fuse and meal powder. On giving these samples a careful examination, we feel assured of their excellence, and they almost make us regret that the halcyon days of our boyhood have passed away, when, with the unerring rifle in hand, and a few jovial companions to join us, we have many a day worked ourself faint and weary in the exciting and real enjoyment of hunting.

We quote the following from a printed circular recently issued by the company:

"The California Powder Works are about entering upon their fifth year, as one of the leading manufacturing enterprises of the Pacific coast—their first powder being made in the summer of 1864—and they can truly say that their success has been beyond their most sanguine expectations.

An ordinary article of merchandise, in fact anything that can be handled and receive a critical examination, can make headway as soon as it is presented to a purchaser. But not so with an article like powder, where an inferior article can be made to look equally well with a superior—the surface and finish of powder being wholly produced by attrition of the particles, and a glazing of black lead.

For powder the miner must invest his hard-earned money; and after making expensive preparations, explode it in his mine before he can pronounce it good. In other words he must annihilate it before he can decide upon its quality. It is not strange, therefore, that he should strongly prefer some favorite brand that he has been in the habit of using, and is already prepared to be prejudiced against any innovations of the old and well-tried. Miners are surely conservatives.

These preferences and prejudices every new powder-works must meet and overcome, before the old will give place to the new.

It is, therefore, with pride that the California Powder Works can say that they have met with unprecedented success in the introduction of their manufacture, when the sales of their powder from being only a few hundred kegs in 1864, has reached to nearly one hundred thousand in 1867; and this in the face of the fact, that in all that period there has been an abundant supply of Eastern-manufactured powder of fair quality in the market.

While they have not aimed to undersell their neighbors, they have always endeavored to give their powder to the consumers at the lowest possible price consistent with the cost of its manufacture; and are confident in asserting that it has gone so generally into use, solely from its acknowledged superiority.

A careful test with a proof mortar, or balistic pendulum, will also satisfy the most incredulous that the various brands of our powder are from ten to twenty per cent. stronger than the same nominal grades made at other works, and which are subjected to a long sea voyage; and they confidently look forward for the time, not far distant, when every hunter this side of the Rocky Mountains will buy it in preference to that of any other manufacture."

We notice that most of the kegs and canisters exhibited are such as are in use by the company for putting up their powder for market, thus giving us a fair insight into their constant method of placing their goods before their customers.

These works are on the San Lorenzo river, about two and a-half miles from the town of Santa Cruz, or three from the Bay, where they have extensive warehouses for storing their saltpetre, sulphur and other merchandise; and their magazine for storing powder.

The works are very extensive, occupying an area of nearly two hundred acres of land, and comprise seventeen different mills and works placed at distances of from three to six hundred feet apart; besides workshops, furnace-houses for drying and for boilers, and storehouses for wood and other materials used in the manufacture of powder.

Their cooper-shop alone, where all their kegs and barrels are made, is a great curiosity, and will well repay a visit to any one who is so fortunate as to procure a pass to enter the gates of this establishment, with an attendant to show him the works. In this department, as in fact in all the other mills, everything moves like clock-work. About fifty men are employed here, and are divided into gangs, each set having its particular work to do. Here the timber is taken in, in the rough, as it comes from the forests, and after passing through the various manipulations, comes out finished kegs at the rate of six hundred and fifty per day, or faster than at the rate of one a minute for the entire working hours. All the timber from which the kegs are made is perfectly dried in kilns or drying-houses for that purpose, so that the kegs may be perfectly water-tight. Labor-saving machinery is introduced to facilitate such part of the work, and this cooper-shop is one of the most perfect we have ever seen.

When we consider that in many powder works the making of kegs and barrels, the refining of saltpetre and carbonizing of wood are done in separate establishments—but at these works all these are included—we must set them down as among the most complete, and we may justly feel proud that the young State of California can boast of them as taking rank with the most extensive powder works of the world, and we feel assured that the quality of their powder is fully parallel with the excellence and perfection of their establishment.

These mills are situated in a beautiful dell or valley, stretching along the river's bank; the different mills half protruding and half hid away among the numerous forest trees of pine, spruce, redwood, maple, alder, oak and sycamore, which have been left standing about upon the grounds,—forming at once a beautiful ornamentation, and serving the double purpose of a protection in case of explosion.

As one winds along the mountain ridge on either hand and catches a glimpse of the works below, the shimmering waters of the river, the mills standing here and there among the trees, the numerous tramways and footways connecting all the different storehouses and mills like a web,—it forms altogether one of the most picturesque and charming scenes our eyes ever beheld, and reminding one of the Swiss hamlet, as seen far down among the Alps, but wide-awake with the vim and stirring life of our American civilization.

Their success, we trust, will be commensurate with their enterprise.

THE SOUTHERN PACIFIC RAILROAD.—The Southern Pacific Railroad Co., through T. G. Phelps, ask the Supervisors of San Francisco to give the stock held by San Francisco in the San José Railroad on condition that they build thirty miles of road on or before July 1, 1869. A large number of tax payers signed a petition supporting the request.

The reservation of lands in this State for the Southern Pacific Railroad Company has been set aside by the Secretary of the Interior, on account of alleged failure to define the route, and the land has been thrown open to preemption.

ARTESIAN WELLS IN THE SOUTHERN COUNTIES.—A sensation has been caused on the Southern coast by the success of an artesian well ten miles south of Los Angeles, on the road to Wilmington. The water, which was struck at a depth of one hundred and two feet, fills a seven-inch pipe with a strong current, and rises four feet above the surface. This is the first artesian well south of Santa Barbara. A well enhances the value of land in that country very greatly, sometimes for miles around. Land speculators are wide awake to the importance of such developments.

A SCIENTIFIC CHURN.—J. N. Seeley & Co., 320 Sansome street, exhibit a churn which they have put to a practical test several times since the opening of the Fair. It makes butter in from two to four minutes from sweet milk, the modus operandi being both novel and interesting. The same firm have on the same stand a patent mop-wringer, and some revolving egg-cookers, both of which are different from anything of the kind we have been permitted to see.

WHAT is everybody doing at the same time? Growing older.

The Ætna and Phœnix.

The Ætna and Phœaix Firo Insurance Companies of Hartforl, Conn., are the acknowledged leaders in the business of fire underwriting in tbe United States, and havo gained their present popularity, wealth and influence through having conducted their business honorably, equitably and promptly Tho officers and managers of theso sterling institutions seem to thoroughly appreciato the fact that losses are legitimate in the business engaged in, and take as much genuine pleasure in paying an honest and squarely proven loss, as in receipting for a premium, and tbis fact seems to us to be one of tho leading secrets in the history of the unexampled success of these two great enterprises.

The "Ætna Fire" was chartered by the State of Connecticut as early as 1819, and since then has been in active service as an underwriter, keeping pace with time, and the improvements in and growth of this country; doing a general business, the company has had a hand in all of the great conflagrations that have been recorded in the history of the United States for *fifty years;* and while in some of these conflagrations their losses were severe, all have been paid promptly, and that without in any known instanco asking for a single days' grace for want of means to respond, though hundreds of local companies interested in these same conflagrations buve had to surrender to the fire fiend, and expired on their own battle-field. The Ætna has over five million dollars cash assets to endorse its contracts sustained by an income of over four million per annum, and has paid over twenty-three million dollars for losses since its first policy was issued.

The Phœnix Fire, organized under a perpetual charter by the State of Connecticut, has thus far proven hy its acts and success, its right to its "name" and a "perpetual lease of life." Year after year the company has moved along, making reputation and accumulating wealth and patronage, nntil it now ranks high in the list of model fire underwriters, surpassed hy none, and equaled only by the grand old Ætna. The Phœnix has a solid cash capital invested in the best and safest securities to be found in the Union, and its actual net casb surplus invested in the same way, by sbrewd financiers, amounts to *over one hundred per cent.* of its capital stock; or, in other words, that *for every one hundred thousand dollars of capital, it has over one hundred thousand dollars of surplus.*

The stock of the Ætna and Phœnix is of the "gilt edged" order, the par value he ing $100. It is bard to secure any number of shares in the Ætna at $201, or in the Phœnix at $198; the monied men of Connecticut, the farmers along the Connecticut River, and all well-to-do men within reach of Hartford, kcep an eye out for Ætna and Phœnix stock, and pick it up whenever offered, as a choice, sure and paying investment. Companies standing thus at home, where officers, securities and results are thoroughly known and appreciated, must stand well abroad. Hence the great popularity of the Ætna and Phœnix in each and every State, city, town and village in the Uniou, where they do a Fire Insurance business.

Nearly eleven years ago these progressivo companies located their agencies in San Francisco, for the purpose of granting protection to the *pioneers* on property then extra hazardous. Fires numerous and destructive occurred, year after year, in this State, and on this coast; these companies, as a matter of course, being interested to a greater or less extent, still paid as they lost, and instead of getting discouraged and hacking out, as numerous otber companies bave done, they stood hy our people, aud are now fixtures on tbis coast, real "Home Institutions," that are entitled to the patronage and support of a people they have stood by and protected, when "local companies" dared not organize.

Six years ago the "Phœnix" officers being satisfied that there were to he found outside of San Fraucisco, business meu, honorable, capable and trustworthy to represent them, estahlished a branch office in this city, and located fully commissioned agents at each prominent point, same as they have in the older States. The system worked well, and the "Phœnix," by placing confidence in Californians, secured the lead in business. The Ætna, becoming satisfied the "Phœnix" did not act prematurely in locating full ageucies, joined witb the company about two years ago, and under the control and supervisiou of R. H. Magill, the managiag agent, these companies are doing a large and a prosperous business. During the year endiug with July, 1868, they lost oaly $2,000 in this city, out of $279,000 paid by all companies, aad were not interested in the La Porte fire which called on the underwriters for $125,000! The ratos cbarged by the Ætna and Phœnix are *low*, very low when the quality of the security furnished is properly considered. The companies take small risks as compared with their immeuso assets, and should a large fire ever occur ia this city, then tho superior value of a policy in tbe Ætna or Phœnix will ho fully realized.

HUCKS' PATENT LAMP.—J. J. Hucks, who has several of his naphtha or benzine burners on exhibition in tho little enclosuro with the Business University telegraph office, has spent much tiaie and money in perfecting this lamp, or rather gas-hurner, which soems fully to answer the purposo intended—a cheap, strong light for use where ordinary gas cannot be had on reasonable terms, and where an exposure to currents of wind, as in tunnels and the open air, extinguisbes any ordinary lamp. The cheapness and cleaaliness of the material used, and the beautiful, steady light produced, should ere this have secured for it a more extended demand. By their use in mines, in had air and when the current is too strong for candles and ordinary lamps, its use would, we think, result in the saving of much time and health on tho part of workmen employed. Similar lamps are now and long have heen used ia England for such purpose, and even for ordinary use. We notice one of tbeso lamps is hurning every evening on the large engine of the Pacific Fonndry, in tho machine department of the Pavilion, which is a puzzle to visitors from the fact that its reservoir is placed sixteen feet distant, the fluid heing supplied through a small tube. It has a cluster of flames forming a more brilliant light than the surrounding burners, and many have taken it to be the product of a superior quality of gas.

Tbe lampis constructed on scientific principles. Its introduction to general use on this coast is a credit to tbe enterprise of Mr. Hucks.

AMERICAN TIME-PIECES—FIRST AND LAST. In 1800, Eli Terry, of Plymoutb Hollow, Conn., made wooden clocks in his kitchen. As soon as he had finished a couple of tbem, he would load up his old horse, and pack them round the country until he bad sold them. Then be would go home and make some more. In a few months be would he ready to sally forth on anotber trip. He did a good business.

In 1868, "The American Watch Company of Waltbam, Mass.", are turning out over two bundred and fifty per day of the finest watcbes in the world. Tbis is at the rate of one watcb in every two and a half minutes of working time. These are rushed hy rail and steamship to the uttermost ends of the earth. Tbey do a good business, too.

WALTER'S COOKING RANGE.—Thomas C. Walter, inventor, San Francisco, has on exhibition a model of an improved cooking range, wbich possesses many merits, although it is so small as to be overlooked by the general observer. This range is of such construction that either wood, coke, authracite or hituminous coal may be used, and the different compartments are so arranged tbat, hy a series of dampers, tbe fire, smoke and the vapors arising from the cookery, are so perfectly under control that none of the various articles that may bo cooking at the same time, will lose their distinguisbing flavors.

When the fire is new, the beat and smoke may he directed around one set of ovens, and after it has burned down to a clean fire, the top of the central compartment may he removed. A series of ovens are placed directly above this compartment, yet so perfectly are the flues and dampers arranged, that the flavor of the most delicate pastry is not injured by the roasting or boiling which may he progressing below. The range may be constructed of masonry, with an iron front, and the whole closed hy doors, so that the kitchen will be entirely free from the smell or heat of cooking.

WHAT do we often drop and never stop to pick up? A hint.

R. W. RAYMOND, of the New York Journal of Mining, lectured last week in Austin.

ADDITIONAL.—Amongst the new things brougbt in, of particular interest, are Larssen's Norwegian fishing boat, 17 feet long, 4 feet 7 inches hroad, and 1 foot 6 inches deep, being tho sizo in common use among the islands at the mouth of the Fiords, —very graceful and seaworthy, and tbe kind of boat that the Norse girls aro at bome in, and met in more frequently hy the traveler than men,—at tbe same quite suggestive of the ancient Norse ships of from 20 to 40 tons, with the lofty stem and stern posts frequently carved, which one may see to this day in the Sogne Fiord; Hinkle's patent bed bottom, made of slats suspended hy rubber, like Slocum & Kinzer's, only that the attachmont is slightly different; also an office bed with folding legs; Spaulding's Combination Watchmakers' Lathe, for turning small metallic objects; a peculiar pestle attachment to a stamp mill, whereby further pulverization and concentration are effected at the same time, ia successive mortars through which the pulp flows, etc.

A GREAT American exposition of arts is proposed for the year 1876, the centennial anniversary of the Declaration of Independence.

AGRICULTURAL FAIRS.—Tbe San Juaquin and the Sonoma County Fairs have heen in progress during the week.

A MOST INTERESTING FEATURE in the re-opening of Woodward's Gardens is the valuahle Library, comprising a choice selection of everything in the way of light literature, voyages, travels, history, biography, science, and art. *

FOOTE'S EYE SHARPENER can he bad at C. Muller's, 205 Montgomery street; hut the hest eye opener, after all, is a pair of his Brazilian Pebhle Spectacles. *

WHY ought a greedy man to wear a plaid waistcoat? To keep a check upon bis stomach.

PLANTATION BITTERS are especially recommended to clergymen, public speakers, and persons of literary habits and sedentary life, who require for digestion a relish for and clear mental faculties. Delicate females are certain to find in these Bitters what they have long looked for. *

WANTED—At this office, tho postoffice address of Enraght Massey, late of Ooid Hill, Nevada.

NOTICE.—Persons interested in locating Mineral Lands in California or Nevada, will do well to observe the advertisement of N. Wescoatt, S. & M. E., in another column.

CO-OPERATIVE UNION STORE.—This is becoming one of the most useful Institutions in the city, and the Mechanic and Laboring Man fully appreciate it. They are now enabled to buy their Groceries and Provisions 20 per cent. cheaper than ever before, and the very best articles in the market. The store is located at 115 Sutter street, Lick House Block, San Francisco. 6v16-a1m

SAVE YOUR TEETH.—Drs. Jessup & Seers, over Tucker's jewelry store, are now making a specialty of filling the fangs of dead Teeth, and building up broken crowns with *pure gold*—thus restoring them to their original usefulness and beauty. They are also using Nitrous Oxide for the painless extraction of Teeth, when so desired—the only absolutely safe anæsthetic ever discovered. In breathing it, it acts as a gentle stimulant, without undue excitement,—the sensation produced being truly delightful, the effect upon the lungs healthful, and in its results positively free from all danger. Prepared and administered daily at the Dental Rooms of Messrs. JESSUP & SEERS, corner Montgomery and Sutter streets, San Francisco. 16v16tf

1 T
will heal
old sores, piles,
ulcers, cancers,
salt rheum, and break-
ing out on any part of the
body, and also removes pain
of every name or nature instantly. It is a harmless liquid, and leaves
no smart or stain, and is called Moore's
Pain Paint. For catarrh and colds in the
head, Moore's catarrh remedy affords a safe,
sure and speedy cure. Both remedies sold
by druggists everywhere, and at Moore's
office, 652 Market street, northeast
corner of Kearny, where all pain
is instantly removed, free
of cost, as hundreds can
now testify from ac-
tual tests.
8v17-3m

NORTH AMERICA
Life Insurance Company.

Usual Restrictions on Occupation and Travel
ABOLISHED!

Policies of this Company are guaranteen by the State of New York, which is true of no other Company on this Coast.

The most Responsible and Liberal Company in the World!

J. A. EATON & CO.,
Managers Pacific Branch, 302 Montgomery st.
20v14nr9p SAN FRANCISCO.

Builders' Insurance Company—OFFICE IN THE BUILDING OF THE CALIFORNIA SAVINGS BANK, California street, one door from Sansome street.
☞FIRE AND MARINE INSURANCE. 10v14t9pqr

Support Home Manufactures.

California Pioneer Fuse
MANUFACTURING COMPANY,
MANUFACTURERS OF
HOSE AND TAPE FUSE,
A New and Superior Article for Blasting in very wet ground, or under water.

Great difficulty has heretofore been experienced by miners, and others in the use of Fuse, which has been subjected to deterioration from exposure to dampness during transportation, or during the great length of time which has passed between its manufacture and use. In addition to great painstaking in the manufacture of the California-made Fuse, the above and many similar objections are entirely obviated, and the operator can always depend with certainty upon the burning of his fuse.

It is often the case that extra lengths are required, as exploding tunnels, etc., longer than is furnished in the imported article. Fuse of every desired length or size can be made to especial order, at the above manufactory.

Manufactory, - - - - Potrero, San Francisco.
JOS. POWNING, Sec'y. JAS. EVA, Supt.
17v16-9ptf

PACIFIC
Rolling Mill and Forge Co.,
SAN FRANCISCO, CAL.

Established for the Manufacture of
RAILROAD AND OTHER IRON
—AND—
Every Variety of Shafting,
Embracing ALL SIZES of
Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames
—ALSO—
HAMMERED IRON
Of every description and size.

☞Orders addressed to PACIFIC ROLLING MILL and FORGE CO., Post Office, San Francisco, Cal., will receive prompt attention.
☞The highest price paid for Scrap Iron. 9v14-3m9p

A Book for Every Miner and Scientific Man.
JUST PUBLISHED,
KUSTEL'S NEW WORK,
CONCENTRATION
Of all kinds of Ores, and the
CHLORINATION PROCESS,
For Gold-Bearing Sulphurets, Arseniurets, and Gold and Silver Ores generally.

Price, - - - - - $7.50

A liberal discount to the Trade. For sale by the Booksellers Sent to any part of the United States, postage paid, on receipt of the price. Address,
DEWEY & CO., Publishers,
Office of the Mining and Scientific Press, 414 Clay street,
16v1tf SAN FRANCISCO.

NOTICE.

On and after this date, all parties on the Pacific coast manufacturing, using, or selling
Dunbar's Patent Piston Packing,
must obtain a License for the same from the undersigned, or they will be subject to the penalties of the law.
H. S. SMITH,
Ætna Iron Works.
San Francisco, August 15th, 1868. 7v17-3m

Pacific Chemical Works.
SULPHURIC ETHER.
SPIRITS OF NITRE,
AQUA AMMONIA,
ACETIC ACID,
CYANIDE OF POTASSIUM
—AND—
ACIDS AND CHEMICALS OF ALL KINDS.
FALKENAU & HANKS,
Office, 619 Montgomery Street.
LOUIS FALKENAU, State Assayer.
☞Particular attention paid to the Analysis of ORES, MINERALS, METALS, etc. 8v17

BY MAIL.—The *Mining and Scientific Press* will be sent by mail to any part of the civilized world. In case of removal subscribers have only to inform us of the post office address of the old and new location, and the paper will be sent accordingly.

ELECTROTYPE CUTS, ENGRAVINGS, ETC.—Our Job Printing Office is abundantly supplied with elegant engravings, ornaments, and other embellishments to suit the various branches of industry in the State.

Machinists and Foundries.

PALMER, KNOX & CO.,

Golden State Iron Works,

Nos. 19, 21, 23 and 25 First Street,
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF
MACHINERY,
STEAM ENGINES AND QUARTZ MILLS
DUNBAR'S IMPROVED
Self-Adjusting Piston Packing,
Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.
WHEELER & RANDALL'S
NEW GRINDER AND AMALGAMATOR
HEPBURN & PETERSON'S
AMALGAMATOR AND SEPARATOR,
Knox's Amalgamators,
WITH PALMER'S PATENT STEAM CHEST,
Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continual working.
Genaloe White Iron Stamp Shoes and Dies

Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10qy-tf

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PORTLAND, OREGON.

Steam Engines, Boilers,
SAW AND GRIST MILLS,
MINING MACHINERY, WROUGHT IRON SHUTTER WORK, AND BLACKSMITHING IN GENERAL.
Corner North-Front and E streets,
18v13-1y One block north of Couch's Wharf.

UNION IRON WORKS,
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WILLIAMS, ROOT & NEILSON,
MANUFACTURERS OF
CROSS' PATENT BOILER FEEDER,
STEAM ENGINES, BOILERS,
And all kinds of Mining Machinery.
Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.
Danbar's Patent Self-Adjusting Steam Piston
PACKING, for new and old Cylinders, manufactured to order.
Front Street, between N and O streets,
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Foundry and Machine Shop,
STOCKTON, CAL.
KEEP, BLAKE & CO.,
MANUFACTURERS OF
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EVERY MAN HIS OWN BARBER.—In Will & Finck's show-case, at the Pavilion, can be seen a novel idea in barber-ism—a hair-cutting shears, invented by Lee D. Craig, of Nevada county. This little invention will enable those who live at a distance from barber-shops to always have a fashionable cut to the hair, which can be done by any unprofessional hand with very little trouble. It consists of merely attaching to one blade of a pair of shears, a short comb, which is moved back and forth at right angles to the blade by means of a slide, and secured at any point by a set screw. The comb can be set at any distance from the shears, thus regulating the length of the hair. To cut the hair it is only necessary to run the comb up under the hair next to the scalp, commencing at the bottom, when the hair will fall between the blades, where it may be cut—lengthening the slide where it is desired to leave the hair long. Mr. Craig has applied for a patent for his shears through the MINING AND SCIENTIFIC PRESS Agency.

FINE ACCOMPLISHMENT.—The *Alta* appropriately notices the following:

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NITRO-GLYCERINE IN BELGIUM.—Of the recent explosion at Quenast, the *Independence Belge* says:

It would be difficult to give an idea of the desolated aspect of the place where the catastrophe occurred. The trees are without a single leaf, their branches and trunks torn or split; and the crops to a large extent are covered with the *debris* of stones, bricks, iron, and wood, which the force of the explosion carried to a great distance. The vast and solid structure by the side of which the explosion occurred was literally pulverized in the space of a second. There is not one whole brick left. Enormous beams have been hashed up, and others have been hurled to an incredible distance. The shop contained working materials and iron machines. Iron was also employed to a large extent in its construction. The whole of it was bent, twisted and sent flying over the country. We have seen an enormous bolt fixed several inches in the trunk of a poplar tree, at a distance of more than one hundred metres from the place of the accident; also, what was once a tie-beam twisted round the trunk of another poplar like a bracelet. The bodies of two sawyers who had been working at a distance from the shop, were found without any clothes. As to the eight persons who were engaged in discharging the nitro-glycerine, not a trace has been found of any one beyond a piece of flesh, a shred of clothes or a button. A fragment of a skull with long black hair attached to it, was picked up and recognized as that of M. Grillot. A five franc piece, bent and burut, was also found. The 1,800 kilogrammes of nitro-glycerine which exploded had an expansive force equivalent to 200,000 kilogrammes of powder, and was sufficient to blow up the entire city of Brussels.

THE CONTINENTAL RAILROAD.—The track is laid to a point 280 miles east of Sacramento, and before the end of September trains will be run to Winnemucca, forty miles beyond Humboldt City, 324 beyond Sacramento, and 448 from San Francisco. Ten thousand men are employed on the road, about eight thousand of them in actual construction, and the remainder in cutting ties, etc. During the first ten days of last month about twenty-seven miles of track were laid—an average of nearly three miles a day. All that prevents the laying of four or five miles daily is the impossibility of bringing up the material fast enough. A mile of track requires eight car-loads, forty-eight rails to a car, weighing in the aggregate nearly 110 tons; and 2,400 ties, with a large quantity of fish plates and spikes. The cost of the road where it is now being built is given at $50,000 per mile. The mountain section averaged a cost of $100,000 per mile. The total cost of the road to a point in the vicinity of Salt Lake will be a little under $65,000,000.

The Union Pacific Railroad Company are building hotels along their road at the principal points, for the accommodation of travelers, in the event of being delayed or desiring to rest while making the journey across the plains. Sherman, the highest point on the Union Pacific Railroad, is 8,262 feet above the level of the sea, and 7,292 feet above Omaha. At Laramie City they have a live paper called the *Frontier Index*, 14 by 16 inches, which is published in a house on wheels, and keeps at the terminus of the railroad.

GALVANIZING IRON.—Sheet iron, iron castings and other objects in iron, chains, nails, etc., are first cleansed in an acid bath, the water of which is so rendered by the addition of sulphuric and muriatic acids. Then they are put into an alkaline bath, the effect being produced by the addition of a little soda to the water. After this they are taken, one at a time, and scoured with sand, emery and water, using a piece of cork or cocoanut husk as a brush, and again thrown into a bath of very weak acid and water. Pure zinc when melted is covered at the time of the operation with a thick layer of muriate of ammonia (sal-ammoniac) in an iron boiler or open vessel. The iron goods to be galvanized are now to be dipped into the fluid zinc, slowly raising them from the metal, so that the superfluous zinc may drain off. They are then thrown into cold water, on removal from which they are wiped dry, and the operation finished. Thick, heavy pieces of iron require to be heated before dipping into the zinc, in order to avoid cooling it below the degree of fluidity.—*Septimus Piesse.*

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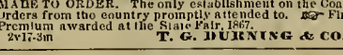
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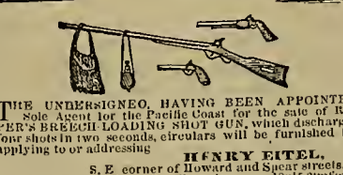
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HYGEIAN HOME WATER CURE.

No. 637 California street, opposite St. Mary's Cathedral.

WE HAVE NOW THE MOST EXTENSIVE AND COMplete Health Institute on the Pacific Coast, both for ladies and gentlemen. The success which has attended industry and an honest pursuance of this rational mode of curing the sick for the past ten years, has enabled Dr. Smith to establish a Home combining all the Hygienic appliances essential to the invalid. Owing to our increased facilities, we feel warranted in reducing the prices for gentlemen to $50 per month; to ladies from $15 to $20 per week for board and treatment.

FARLOW J. SMITH, M. D.,
Physician and Surgeon.

H. O. COSGROVE, Superintendent. 21v16-3m

SAN FRANCISCO

Pioneer Screen Works,

JOHN W. QUICK, Manufacturer.

Removed to Vulcan Iron Works, Fremont street, between Mission and Howard, San Francisco.

Screen Punching in all its branches, at rates reduced from 25 to 40 per cent. less than the established rates. I can furnish Improved Quartz Screens several sizes finer than any Screen ever punched, giving universal satisfaction, and for strength, cheapness and durability are not excelled. Also, Punched Screens of all sizes and fineness made from all qualities of material, for Quartz, Cement, Flour and Rice Mills, etc. Screen Punching made a specialty; therefore millmen forwarding their orders to me will receive none but the best. Orders solicited.

N. B.—J. W. QUICK is the only competent and successful manufacturer of Screens in the State, having made Screens for the principal mills in this State and adjoining Territories for many years. Quartz mill owners using punched Screens which have universally failed to give satisfaction, when visiting the Mechanics' Institute Fair, will please call and see me. 5v17-1y

Mining Secretary.

THE SUBSCRIBER, HAVING SERVED FOR THE LAST five years as Secretary of various mining companies, feels fully competent to serve in that capacity. Any parties wishing to secure the services of a Secretary can be accommodated on reasonable terms. Information given, and all necessary papers correctly made out.

Having had a long experience in the purchasing of goods and machinery for miners, parties in the mines will find it to their advantage, where purchasing agents are employed, to send their orders to the undersigned.

J. M. BUFFINGTON.

Room 37, New Merchants' Exchange, California street, San Francisco. 17v15-tf

REGISTER YOUR LETTERS containing money addressed to us, or we will not be responsible. Remittances by Express must be in packages, prepaid. When practicable, it is best to remit by draft, or order, on some San Francisco bank or firm.

HAIR JEWELRY.—This is an example of one of those naturally growing up little specialties where individuals evincing a particular adaptation of talent and a little worldly shrewdness withal, are constantly finding new opsnings to their own profit, the advantage of their patrons, and not unfrequently to the wonder of slow people, who cannot see why they are favored with such extraordinary "luck." Mrs. C. Cook has an interesting exhibition of multitudinons neat little things made of hair and gold, a little beyond the fountain on the left hand side. It is generally acknowledged that in ornamental and tasteful design for little nonutilitarian articles, the French excel all other nationalities beyond comparison. Mrs. Cook manifests all of the taste of her Parisian fellow contributors to luxury. Looking over the variety of little conceptions in her show-case, we observed amongst other things a lilliputian knapsack, the body of which was made of brown hair, and the roll representing the overcoat on top, of blonde hair,—probably some memento of the war. There were, besides, little horseshoss, slippers, drums, safes, plows, books, harps, watering cans, etc., and full sized bracelets, and watch guards, of plaited and woven hair, plain and nnited with buckles and joinings of gold, short ones for gentlemen, and long ones, reaching around the neck, for ladies. No natural fiber can be found to make so rich, glossy and beautifully colored a texture as that from human hair, and silk itself cannot exceed it; not to mention, in this connection, the special and sacred values which are usually attached to the little mementos made of hair.

A NEW GOLD-SAVING MACHINE, in the form of a combined amalgamator and concentrator, on exhibition by Messrs. Hinkle & North, was inadvertently omitted in our report of this class of machinery. The amalgamator is intended to consist of two or more copper pans arranged in steps, the one above the other, across which the pulp flows,—a vibratory motion being at the same time given to the pans lengthwise. There are some 500 vibrations per minute,—the movement of each being only about three-eighths of an inch.

At the foot of each step is a reservoir for the quicksilver. Underneath the lower amalgamator is arranged the concentrator, with a similar vibratory motion, caused in each case by means of an eccentric and two upright wooden springs attached to the framework of the machine. The sulphurets when concentrated, are discharged into a box by the same automatic motion. It should be examined by all quartz miners.

PREMIUMS AT THE STATE FAIR.—We have received a catalogue of the premiums offered by the State Board of Agriculture for the approaching State Fair, which opens at Sacramento on the 15th, and is to continue until the 25th inst. Ten thousand dollars are subdivided so as to comprise a list of premiums occupying 24 pages of printed matter.

EIGHT-HOUR LAW STRIKE AMONOST MINERS.—An extensive strike in the coal regions of Pennsylvania has been caused by the eight-honr law passed at the last session of the Legislature. The miners demand that they shall receive the benefit of this enactment and at the same time obtain the wages heretofore given for ten hours' labor.



THE FLORENCE

RECEIVED THE HIGHEST PREMIUMS

At all the most important Fairs held in the United States in the year 1867. Gold Medals at the American Institute Fair, New York; Mechanics' Association Fair, Lowell; Maryland Institute Fair, Baltimore. Highest Premium at the New York State Fair, Buffalo, and at the Great New England Fair, Providence. At the Fairs held on the Pacific Coast, this machine has taken

Every First Premium

Awarded on Family Sewing Machines in the LAST FIVE YEARS. If there is a Florence Machine within one thousand miles of San Francisco, that is not giving entire satisfaction, if I am informed of it, it will be attended to without express charge or expense of any kind to the owner.

SAMUEL HILL, Agent.

11v16-4m 111 Montgomery street, San Francisco.

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TOILET ARTICLES, Etc.,

A large selection at the lowest prices possible.

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1v17-3m

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Fine Custom Made Clothing

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Gents' Furnishing Goods

AT PRICES THAT DEFY COMPETITION.

Our Stock of Clothing Consists of

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CORNICES and WINDOW SHADES constantly on hand. All kinds of UPHOLSTERING executed neatly, with dispatch. 9v17

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The dates are all cut on a solid wheel, which makes them durable, and not liable to get out of order.

These Stamps are manufactured of the best material in the most perfect and substantial manner.

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Scales, Weights, Dies, Stamps, Drawing and Philosophical Instruments, etc.

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☞Repairing promptly attended to. 3v15tf

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Black Diamond, in 1lb canisters.
do do in ½lb canisters.
do do in ¼ kegs.
Hunter's Pride, in 1lb canisters.
do do in ½lb canisters.
do do in ¼ kegs.
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Pacific Mills River Shooting, in 1lb canisters.
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do do do in ⅛ kegs.
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Blasting and Mining Powder $2 50 per keg.

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HAYWARD & COLEMAN, Agents.

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Patent Steel Horse Shoes.

A New Invention.

Just received, an invoice of these UNRIVALLED SHOES, warranted to be entirely of the best

BESSEMER STEEL.

This Shoe has just been introduced in Ohio and Kentucky, where it is highly appreciated, and is also coming into general use in other Atlantic States.

For sale by

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302 Montgomery street, N. E. corner of Pine,

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H. DUTTON, President.

GEO. M. CONNEE, Cashier. 19v16-3m

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SEWING MACHINE!

PRICE ONLY $6.00.

The Greatest Novelty Yet!

This is the simplest and cheapest Sewing Machine ever made, and performs its work with marvellous efficiency. Call and see it. Agents wanted everywhere, and great inducements offered. Sent by express, free of expense, on receipt of price (or C. O. D.) to all places in this State where we have no agents.

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Women's Co-operative Union Store,

29 Second Street, opposite Jessie.

Ladies', Gents' and Children's Furnishing Goods; Children's Suits; Infants' Wardrobes; Fancy Articles, etc., etc. Shirts made to order. Mending done. Orders from Steamboats, Hotels, and the country respectfully solicited.

Mechanical Drawings.

Persons wishing Mechanical Drawings can obtain the services of competent draughtsmen, by applying to this office.

Professional Cards.

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MINING ENGINEER, Etc.,

Wadsworth House.....San Francisco.

Having had 33 years experience in the various departments of Mining Engineering and Metallurgy, in Cornwall and America, solicits orders for the examination of Mineral Properties throughout the North and South Americas; minerals assayed or analyzed; advice for beneficiating refractory ores; Metals sold; capital procured for developing valuable ledges. 4v17tf

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Surveyor and Mining Engineer.

Having returned to Yuba County, Cal., after an absence of several years in the State of Nevada and the Eastern States, will attend to all business in his line in this State, or the State of Nevada, or adjoining Territories.

All orders will be attended to with dispatch, and satisfaction given.

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Judge Filkins, "
Col F. L. Hatch, "
L. J. Ashford, "

Office at Smartsville, Yuba County, Cal. 4v17tf

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(Recently from Mazatlan.)

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In Dentistry.



PATENTED DECEMBER 3d, 1867, by DR. O. W. COOL. The right of San Francisco reserved for his own use. The nature of his improvement consists in lining the entire concave surface with fine gold; it makes the plate twice as strong and one-third thinner than the common vulcanite plate. This work has given satisfaction in every case. Please call at No. 14 Third street, near Market, and see specimens. All work warranted as fine as the specimens. Prices reasonable. 21v16 3m

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Drawings of Models made for parties applying for patents at Washington or London. mar23-tf.

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2v15-1ay

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Southoast corner of California and Sansome streets, over the Bank of British Columbia. 19v16-3m

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STEAMSHIPS FOR

NEW YORK, JAPAN AND CHINA.

LEAVE WHARF, CORNER OF FIRST AND Brannan streets, at 11 o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPINWALL for NEW YORK:

On the 6th, 14th, 22d and 30th of every month.

Steamer leaving San Francisco on the 6th touches at Manzanillo. All touch at Acapulco.

Departure of the 14th is expected to connect with the French Trans-Atlantic Co.'s steamer for St. Nazaire, and English steamer for South America. Through tickets can be obtained.

Departure of 14th is expected to connect with English steamer for Southampton and South America, and Australia, and P. R. R. Co's steamer for Central America. Through tickets can be obtained.

STEAMERS FOR SEPTEMBER, 1868.

The following Steamships will be dispatched on dates as given below:

September 5th—GOLDEN CITY Captain E. S Farnsworth Connecting with ALASKA, Capt Gray

Septembor 14th—SACRAMENTO.....Capt. W. H. Parker, Connecting with OCEAN QUEEN, Capt. King.

September 22d—MONTANA.....Capt. J. M. Cavarly, Connecting with HENRY CHAUNCEY, Capt. Conner.

September 30th—CONSTITUTION...Captain W. H. Hudson, Connecting with ARIZONA, Capt. Maury.

Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult.

An experienced Surgeon on board. Medicine and attendance free.

These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.

Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—If desired an amount of £10 to £20 will be advanced with the above orders, Holders of orders will be required to identify themselves to the Agents in England.

The Steamship JAPAN, Capt. Geo. E. Lane, will be dispatched on MONDAY, August 3d, at 12 o'clock, noon, from wharf, corner of First and Brannan streets, for YOKOHAMA and HONGKONG, connecting with the COSTA RICA for SHANGHAI.

For Merchandise and Freight for New York and way ports, apply to Messrs. WELLS, FARGO & CO.

For passage and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets.

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Price of Presses, $8, $12, $16, $23, $30. Price of Offices, $15, $20, $30, $42, $48, $70. Send for Circular to LOWE PRESS COMPANY, 3 Water street, Boston. 4v17tf

MILITAIRE.—This is the name given by J. D. Patrick to a modification of tenpins, which consists merely in a redaction of it to "five pins," and in a few simple combinations wherchy the services of a pin-setter, and ball-returner, are dispensed with. The alley is not level, hut rises very slightly toward the end where the pins arc; and heyond the pins there is a roof-shaped floor which canses the ball to roll either to the right hand or left hand into the gutter, along which it speedily finds its way hack to the hand of the bowler. To set up the pins there is an npright lever at the player's right hand, connected hy means of wire and strings with the head of each pin. A single motion of the hand raises them all up and sets them into their places at once; and the operation is itself an agreeahle exercise to the player. The head pin is called the "Captain," and counts four. The two on each side of the Captain connts two each, and the two extreme pins one each. Tho addition of the various comhinations of these numhers which may take place in the course of the game, affords a good mental, calenlation for juveniles. Mr. Patrick has succeeded thus in making ont, of time-honored howling a most excellent as well as economical school and family game.

CONSTABLE'S NEW METHOD OF GENERATING STEAM.—Fire generates steam—hut Mr. John L. Constable has invented an apparatns hy which steam itself is made to generate steam, and he claims for it the advantage of a material saving of fuel. The problem is a simple one, and can he tried at small cost. A jet of superheated steam is caused to meet a flow of hot water from the same boiler, in a side receiver. The result is that the water from the hoiler is instantly converted into steam likewise, at a very small expenditure of heat, and to any temperature desired, by merely regulating the proportions of steam and water with the stop-cocks on the respective pipes. The steam so generated is used like that from any ordinary hoiler direct. Where two boilers have heen nsed, on board of steamers, this invention, it is claimed, will afford the means of saving fifty per cent. both as to weight and space, and fifty per cent. of the fuel employed. The principle is the reverse of Watt's ancient, and still most commonly used, method of condensing steam to create a vacuum in the cylinders: instead of condensing the steam, the water is made to succumh, and to resign itself to its more immaterial condition. A snccessful invention of this kind mnst prove of incalculable valne to the man who proves its advantages, as well as to all those who are in the habit of using steam.

STUMBLING over some acquaintances last evening, they carried me around to divers and different stands where all the varions articles were exhibited to me, and I was permitted to "handle" them, a privilege not generally granted to visitors. I was especially interested in Palmer's patent leg; a better contrivance, it seems to me, to replace a lost limb, cannot he invented. I have often wondered how the things worked, and last evening succeeded in understanding it fully—there is a system of springs and wires which imitate the action of the natural muscles very closely. Jarvis Jewett is the agent, and to his kindness I am indebted for my present understanding—the very article, by the way, which he furnishes. As I do not stand in need of a leg myself, and Cherrylips could scarcely he persuaded to suhmit to an amputation of her natural members in order to he provided with artificial ones, I trust that no one will think I am hidding for a leg in this notice. B.

TROUBLES IN ALASKA.—Complaint is made by residents of our new province, in regard to alleged severities hy the agents of Hutchinson, Kohl & Co., to whom Prince Maxutoff turned over tho property of the Russian American Company on the 28th of April last. A newspaper war is going on, and the Alaska *Herald* of Aug. 15th comes with its fifth page bordered by a heavy black line, containing charges of tyranny, monopoly, ahuse, etc., in which the U. S. soldiers are alleged to he sustaining the oppressor.

THE INDIANS.—Massacres and outrages by the Indians in the Rocky Mountains continue to be reported. It will not be long now before they will learn, like their brethren of the East, so to respect the powers of the white man as to venture no further attempts to stay his ascendency, even in the heart of the Rocky Mountains.

We clip the following from the Sonora *Democrat* of a recent dato: "We have not seen a copy of tho PRESS in several weeks, and if it does not resumo its visits we will stop sending our paper to it." This we presnme is meant for us. We are pleased to inform the *Democrat* that our paper has hcen mailed regularly to its address, and we certainly regret it if it does not come to hand. The only reason we can assign is that the citizens of Tuolumne, in their thirst for knowledge, have waylaid and appropriated it. The only remedy we know of, Mr. Editor, is to urge your citizens to subscriho for the PRESS, and thus avoid the temptation. We would he sorry to have you put the latter part of your threat into execution, as we value your paper highly.

THE STATE UNIVERSITY.—The Board of Regents of the State University met at their office, on California street, on Wednesday. The propositiou to erect a temporary wooden building was carried, but it is to give way in due time to a more imposing one, that will be an ornament to the State. The salary of the President was fixed at $6,000 per annum in gold, and that of the Professor of Physics at $300 (gold) per month. A proposition to set aside $2,500, to he expended in ornamenting the University grounds, met with universal approval. A seal was decided upon of the size of an American silver dollar, appropriately designed, and having the name of the University, and the words "Let there be Light," engraved upon it.

ARRIVED IN TIME.—We noticed in the show-case of Mr. Lorquin, naturalist, a small hox containing specimens of precious stones, such as ruhies, sapphires, emeralds, etc., natural, cut and mounted, discovered and brought from Montana Territory by an old miner and California pioneer, Mr. Daney,—the discoverer of the gold and silver mine of the same name, in the State of Nevada. All these stones have been picked up hy himself in different claims of his own. Some of these specimens have been sent to Boston, London and Paris, and in the opinion of mineralogists and lapidaries, the sapphires and rubies are pure, and also that diamonds onght to be found in the same place. If speculators and amateurs would examino these stones, they may find in them a good investment.

VALLEJO AND SACRAMENTO RAILROAD.—Travel has commenced on this road, and there is a business done already of $2,000 a day. Five hundred tons of grain are daily transported over the road. The hour of departure from Sacramento is six A.M. The company confidently state that the cars will run to the Sacramento River, opposite the city, by the middle of November, and that the new suspension bridge will be completed by Christmas day.

TELEGRAPHIC INSTRUMENTS.—Crowds attend every evening upon Marwedel's display of telegraphic instruments to be delighted and instructed by his exhibition. It may seem visionary to assert that the time is at hand when a knowledge of telegraphy will be as necessary to a complete education as an acquaintance with writing, geography and grammar; but we believe it it is so, nevertheless. Communication by letter must to a considerable extent give place to the "word of mouth" between one city and another, as made practicahle hy electricity. A knowledge of the machinery by which this is accomplished, may be had through the exhibition of which we speak.

INSTITUTE MEDAL.—The committee for the award of the Institute Medal—jeweled and valued at $200, for such meritorious invention or industrial product as in the opinion of the judges will he of the greatest benefit to the people of California—has been appointed, and consists of Messrs. F. F. Low, R. B. Swain, Loring Pickering, James Pollock, and J. M. Eckfeldt.

MAGNETISM HARDENS IRON.—If a stay of soft iron be pressed against one of the poles of an artificial magnet the soft iron is observed to become hard, and it is more difficult to file. If the stay he removed it loses its hardness, and resumes all the properties of soft iron.—*Artisan.*

WHEN is a prison-door like an escaped thief? When it's holted.

WHAT is the key-note to good hreeding? B natural.

☞ *SEND FOR FREE CIRCULAR AND CONFIDENTIAL ADVICE.* ☜

ESTABLISHED.....MAY, 1860.

Mining and Scientific Press

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MANAGERS OF THE FAIR.—The list of Officers above enumerated constitute the Board of Managers of the Sixth Industrial Fair of 1868.

MUSIC.—By Willis' Celebrated Band.

New Mining Advertisements.

Bunker Hill Quartz Mining Company. Location of Works: Near Amador, Amador County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of May, 1868, an assessment (No. 8) of ten dollars ($10) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, or to DANIEL PALMER, No. 134 State street, Boston, Massachusetts.

And whereas said assessment was not duly advertised as required by law, and as contemplated by the resolution making the levy, at a subsequent meeting of the Board of Trustees, held September 2d, 1868, it was resolved, that—

Any stock upon which said assessment shall remain unpaid on the sixth day of October, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-sixth day of October, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

WALES C. PALMER, Secretary.

Office, No. 19 First street, San Francisco, California. sep5

Kearsarge Mining Company, Kearsarge District, Inyo County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the fourth day of August, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Alberding, F H	44, 45, 46, 47	79	$158 00
Bliss, D L	18	200	400 00
Blauvelt, W H	22	60	120 00
Grun, A K	48	203	412 00
Gray, T C	50	20	40 00
Gillig, Mntt & Co	not issued	100	200 00
Gillig, Mott & Co	14	75	150 00
Gillig, John	not issued	85	170 00
Hastings, H L	36	100	200 00
Horn, A	52	78	156 00
Leet, W N	17	215	430 00
Lynch, P	19	21	42 00
McWilliams, Chas	35	100	200 00
Morgan, I	not issued	309	618 00
Sunderland, Thos	3	285	570 00
Stead, Geo	20, 41	205	410 00
Van Gorder, C H	16	559	1,118 00
Winters, John B	15	559	1,118 00
Young, A J	51	15	30 00

And in accordance with law, and an order of the Board of Trustees, made on the fourth day of August, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on the twenty-first day of September, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office, 408 California street, San Francisco. sep5

North American Wood Preserving Company.

Location of Works: San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the third day of September, 1868, an assessment of fifty (50) cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, Room 32 New Merchants' Exchange, California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the fifth day of October, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twenty-seventh day of October, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

WM. B. LAKE, Secretary.

Office, 32 New Merchants' Exchange. sep5

Silver Sprout Mining Company.—Location of Works and Mines: Kearsarge District, Inyo county, Cal.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the fourth day of August, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Alberding, F H	16, 17, 25	3	$90 00
Cozens & Clevelnnd	32	1	30 00
Devin, Bendere & McMillin			
	not issued	2	60 00
Gillig, John	34, 37	32	960 00
Gray, T C	63	7	210 00
Hearst, George	27	10	300 00
Mott, E B, Jr	82, 83	10	300 00
McMillin, Thos	75	1	30 00
McLaughlin, J W	74	50	1,500 00
Martinez, Ladislao	20	4	120 00
Wingard, A	bal. nnd 22, 50, 53	16	480 00

And in accordance with law, and an order of the Board of Trustees, made on the fourth day of August, 1868 so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on the twenty-first day of September, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office, 408 California street, San Francisco. sep5

Mining Notices—Continued.

Chalk Mountain Blue Gravel Company.—Location of Works: Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventeenth day of August, 1868, an assessment of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the twenty third day of September, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twelfth day of October, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary.

Office, 37 New Merchants' Exchange, California street, San Francisco. au22

Hope Gravel Mining Company. Location of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of July, 1868, an assessment (No. 25) of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at his office, No. 533 Kearny street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on Thursday, the tenth day of September, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fifth (5th) day of October, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary.

Office, No. 533 Kearny street, corner of Sacramento, San Francisco, California. Office hours from 12 to 2 P. M. au1

I. X. L. Gold and Silver Mining Company.—Location of Mine: Silver Mountain District, Alpine County, California.

NOTICE.—The Annual Meeting of the stockholders of the I. X. L. Gold and Silver Mining Company, for the purpose of electing Trustees for the ensuing year, will be held at the office of the Company, Pioneer Hall, Montgomery street, San Francisco, Cal., on THURSDAY, September tenth, 1868, at 2 P. M.

au15 J. CROWNINSHIELD, Secretary.

I. X. L. Gold and Silver Mining Company.—Location of Mine: Silver Mountain District, Alpine County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twentieth day of of August, 1868, an assessment of one dollar and fifty cents ($1.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, Pioneer Hall, Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the nineteenth day of September, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the seventh day of October, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. CROWNINSHIELD, Secretary.

Office, Pioneer Hall, Montgomery street, up stairs, San Francisco. au29

Rattlesnake Gold and Silver Mining Company, Browu's Valley, Yuba County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventh day of August, 1868, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, 318 California street, up stairs, San Francisco.

Any stock upon which said assessment shall remain unpaid on the tenth (10th) day of September, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-eighth day of September, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary.

Office, 318 California street, San Francisco, Cal. au8

Office of the Silver Sprout Mining Company,

San Francisco, August 4th, 1868.

STOCKHOLDER'S NOTICE.—In accordance with a resolution adopted at a meeting of the Board of Trustees of the Silver Sprout Mining Company, held this day, a special meeting of the Company is hereby called, the same to be held at the office of said Company, No. 408 California street, San Francisco, California, on Monday, the thirty-first day of August, 1868, at one o'clock P. M., to take into consideration and decide upon the proposition to increase the capital stock of said company from two hundred and fifty thousand dollars, divided into two hundred and fifty shares of one thousand dollars par value each, the present capital stock of the Company, to three million five hundred thousand dollars, to be divided into five thousand shares of seven hundred dollars par value each,

NATHANIEL PAGE, A. WINGARD, E. B. MOTT, Jr. } Trustees.

au8-1m

THE MINING AND SCIENTIFIC PRESS, which commenced its seventeenth volumo on the 4th, comes to us with a newly engraved head, and presenting otherwise its usual tasteful appearance. We take this occasion to say that the PRESS is one of the best papers of the kind in the United States, and every miner and mechanic in the State, as well as the business man, who would keep posted on our industrial resources, should have its name on its subscription books.—*Nevada Gazette.*

Machinery.

VARNEY'S
PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has everrequired repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle, excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setlers for themselves, at the **PACIFIC FOUNDRY,**

1vl San Francisco.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE
—BY—
WM. P. BLAKE,
Corner First and Mission streets, or Box 2,077
3v13f SAN FRANCISCO.

Notice to Miners,
Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to filt all orders with dispatch, and guarantee entire sutisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG,
8v13-1y Stove Store, No. 125 Clay street, below Davis.



REMOVAL.

E. O. HUNT'S

Manufactory of
Wladmills, Horse-Powers and Pumps,

Has been removed from the old stand on Second street, to
114 and 116 Spear st.,
Next above Stuart and south of Missiou st., San Francisco.

Hunt'sPatent Wind-Mills, Tread Horse-Powers, Sweep Horse-Powers, (for one or four horses), Sawing Machines, Pumps of all kinds for shallow or deep wells,—including Hunt'sSubmerged Pump, Hunt's Globe Pump, and Hunt's Single and Double-Acting Pump.

Pumping Machines and general Machinery kept constautly on hand and built to order.

Also, Water Tanks of all sizes.

Having put up large new buildings specially for my business, with greatly increased facilities in the way of room and steam power, I shall be ahle to build everything in my line at greatly reduced rates.

All desirous of procuring water for lrrigating or other purposes, are invited to examine my articles before purchasing elsewhere.

2tv16 **E. O. HUNT, Proprietor.**

OIL STOVES!

MORRILL'S
Petroleum and Universal Oil Stoves

Have proved themselves a superior substitute for Wood and Coal Stoves, in that they work quicker, are neater, bake and broil better, are MORE ECONOMICAL generally. They aro portable, can he used in any room, with or without chimney, as they emit no smoke, soot or ashes. There are nine different sizes, designed for barbers, dentists, and other mechanical purposes—as well as for cooking. They are perfectly safe.

I now offer a reward of **$100** for every Petroleum Stove exploded by Naphtha delivered at my store, 13 Geary street, where they are for sale by

M. B. BULLARD,
Proprietor of Petroleum Stove for California, and Agent for Universal Oil Stove for Pacific Coast.

N. B.—Petroleum Stoves burn Naphtha converted into a gas. Universal Oil Stoves burn Naphtha, Benzine, or Coal Oil, with non-illuminating flamo and light on a wick as easy as a lamp. 21v16 3m

ROBERT BRAGG,



STEERING WHEELS

ON HAND AND MADE TO ORDER.
☞**JOB WORK** done to order, at the shortest notice.
Main street, between Folsom and Harrison,
23v16-3m San Francisco.

To Inventors.

The undersigned is now prepared to assist inventors or others by manufacturing Models for the Patent Office, large working Machines or Devices of every description, in Metal or Wood, in the most workmanlike manner and at reasonable rates. Also, Patterns for Iron and Brass Work and all kinds of Machinery.

Having had ten years practical experience in this city, parties can be assured all work entrusted to me will be executed in a prompt and satisfactory manner. Power will be granted to parties wishing to test or experiment with machinery

☞Full files of the Patent Office Reports for the use of patrons. **J. H. CULVER,**
3v17-3m 20 Fremont street, over Phœnix Iron Works.

GLASGOW
Iron and Metal Importing Company

Nos. 25 and 27 Fremont street,
SAN FRANCISCO,

Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings, which they offer to the trade on liberal terms.
21v16-3m W. McCRINDLE, Manage.

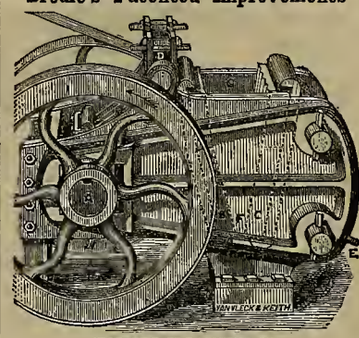
NELSON & DOBLE,
AGENTS FOR
Thomas Firth & Sons' Cast Steel, Files,

Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks,

Stone Cutters', Blacksmiths' and Horse-Shoers' Tools,
319 and 321 Pine Street,
Between Montgomery and Sansome, San Francisco.
10v14qr

Brodie's Patented Improvements



FOR THE TREATMENT OF
Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:

No. 1—Or 10-Inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price.....$600
No. 2—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour..... 850
No. 3—Or 18-Inch Crusher, will in a similar manner crush from seven to eight tons per hour..... 1,200

These Crushers have been erected at several mines in the State of Nevada, and others in Calaveras, Tuolumne and Mariposa counties, to whom applicants can be referred as being the most efficient, cheapest, and least weight compatible with strength and durability, of any Crusher yet erected.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.

JAMES BRODIE, Fulton Foundry, or
CHARLES RADCLIFF,
Express Building, 402 Montgomery street,
12v13tf San Francisco.

C. F. TRAVIS,



Manufactnrer of
FRENCH
BURR
Mill-Stones,
AND
PORTABLE
MILLS.

Agent for
Dufour & Co's
Celebrated
DUTCH ANCHOR BOLTING CLOTHS.

Mill Picks, Mill Picks Dressed, Mill-Stones Repaired and Rebuilt; Mill-Stones Balanced with Fellenbaum's Patent Balance, of which I am sole Proprietor for California, Oregon, and Washington Territory. C. F. TRAVIS.
5v16tf 109 Mission street, San Francisco.

Belting and Lacing.

AN ENTIRELY NEW AND SUPERIOR ARTICLE OF exclusively mechanical preparation, made to order on short notice, and for sale by H. ROYER, at 435 Brannan street, between Third and Fourth. Refers to Eisen Bros, Pioneer Mills; Martin Steen, National Mills; Horace Davis, Golden Gate Mills; also, N. W. Spaulding, Saw Manufacturer. 6v16-3m





Pipe Vise, with or without Extra Jaw.

Standard Milling Machine.

UNION VISE COMPANY,
OF BOSTON,

Make Vises of all sizes and kinds, for Machinists, Blacksmiths, and all other heavy mechanical work. Wood-workers' and other Vices, with Covered Screw, for general mechanical work. Standard Milling Machines, very simple and easily adjusted. Address, Boston, Mass. 23v16-1y

Fire, Hose and Machine Belting.

THE SUBSCRIBER CONTINUES TO MANUFACTURE Oak Tanned Leather Fire Hose, warranted superior to Eastern Hose, manufactured at the Sixth Street Tannery, San Francisco.
21v16tf JOHN J. FULTON.

STOCK CERTIFICATES,
STOCK TRANSFER JOURNALS,
STOCK LEDGERS,
ASSESSMENT RECEIPTS,

And all other Blanks, Blank Books, etc., required by Mining and other Corporations, kept on hand or printed to order on short notice, at moderate prices, at the office of the *Mining and Scientific Press.*

PACIFIC PLATE WORKS,

520 SANSOME STREET,

NOW IN FULL OPERATION,

Offer their WARES, for the first time, to the inspection of the public, and claim for them a position EQUAL to those of FIRST CLASS Eastern Manufacture.

THE STAMP,
Pacific Plate Works,
Will be found
Upon Every Article Issued,
And will be a Guarantee of the Quality.

The basis upon which the plating is done will in all case, be either NICKEL SILVER or WHITE METAL.

A regular STANDARD OF PLATE has been adopted, which will be strictly adhered to, and the wares will be found, upon trial, equal to Sheffield plate.

The SAMPLES of our Manufacture to be seen in the ARTIST'S GALLERY of the

MECHANIC'S FAIR,

Will afford the public an opportunity of deciding upon the claims of the PACIFIC PLATE WORKS to the patronage of the friends to

CALIFORNIA ENTERPRISE.

The assortment, now quite large, comprises a variety of

Table Casters,
Hot Water Urns,
Napkin Rings,
Ice Pitchers,
Ice Bowls,
Tea Sets,
Waiters,
Coffee Urns,
Knives,
Forks,
Spoons,
&c., &c.,

To which frequent additions will be made, until the assortment shall be equal to the requirements of the trade of the Pacific Coast.

In addition to keeping on hand a large assortment of

STAPLE GOODS,

For the Trade, the PACIFIC PLATE WORKS will receive
FOR REPLATING
Articles from which the silver has been worn by use, and will give especial attention to the plating of Builders' and Plumbers' Hardware.

HAYNES & LAWTON,
Agent for the Pacific Plate Works.

Haynes & Lawton,

THE OLDEST ESTABLISHED
CROCKERY HOUSE
IN CALIFORNIA,

Offer to the inspection of the Public the largest and best selected Stock of

ENGLISH EARTHENWARE,
FRENCH PORCELAIN,
American & French Glassware,
Ivory Handle Table Cutlery,
ELEGANTLY DECORATED
DINNER, TEA, DESSERT & TOILET SETS

Ever Exhibited on this Coast,

At their Spacious Warerooms, Nos. 516, 518, 520, 522,
Sansome street, San Francisco.

QUARTZ MILLS.
The Pacific Plate Works

Are ready to fill all orders which may be addressed to them for the SILVER PLATING of COPPER BATTERY PLATES.

HAYNES & LAWTON, Agents,
Sansome street San Francisco

DENTISTRY.—The following from the *Alta* of this city is so *apropos*, that we give it entire:

In this department the samples are exquisitely beautiful, illustrating the highest order of mechanical skill and art. T. C. Jessup has a small case, with a massive framework of bronze, the interior face of which is furnished with a mirror, the whole inclosed in glass. The center contains a tree, the trunk of which is wrought with twisted silver wire, the numerous branches of the same material, from which are pendant nearly a hundred teeth (incisors, molars, etc.) each of which is filled and finished in a different style, and so finished as to present an idea of the difficult, delicate and perfect workmanship he is capable of performing in the dental profession. This branch of the bnsiness he has made his specialty, and the samples shown are convincing proof that his attainments in this branch of mechanical skill are of no mean order. In a separate department of the Pavilion Dr. Jessup displays a case of the beautiful instruments with which his splendid work is performed.

Jessup & Beers (the same Jessup) exhibit also a case of plate-work, in gold, silver, platina and vulcanite, worthy of examination.

WHAT word is that in the English, the first two letters of which signify a man—the three first a woman—the four first a great man—and the whole a great woman? Heroine.

WHY is a selfish friend like the letter P? Because, though he is the first in pity, he is the last in help.

WHY is a Hebrew in perfect health like a diamond? Because he's a Jew well.

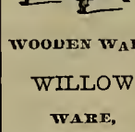
HELY & CUSICK,



PRACTICAL
HOUSE
AND
Ship Plumbers,
914 Market Street,
A few doors west of Stockton.

Bath Tubs,

Water Closets, Wash Basins and Gas Fixtures always on on hand. Buildings fitted up with
Gas, Water and Steam, in the most improved manner.
Particular attention paid to Jobbing. All work warranted one year. 13v16-1y



STOVES
AND
TIN WARE,

WOODEN WARE
WILLOW
WARE,
BIRD CAGES,
Etc., Etc.



Lock's Patent Self-Lighting Gas-Burners, by
GEO. H. CHICK,
At 834 Market street, San Francisco.
24v16 3m

HO TEAMSTERS!
CONTINUE TO
USE HUCKS & LAMBERT'S
CELEBRATED
H & L Axle Grease,
To which you have given so decided a preference for the last
FOURTEEN YEARS,
It is the only reliable article
IN THE MARKET

Every care will continue ts be used to sustain the high reputation the H & L Axle Grease, has so long and justly attained.

☞Be sure and ask for the H & L brand, and see that the
TRADE MARK H & L
IS ON THE COVER OF THE PACKAGE
NONE OTHER IS GENUINE.
FOR SALE IN EVERY STATE IN THE UNION.

[From the Mechanics' Fair Daily Press.]

Universities of Business.

The fact has been fully demonstrated that *business* is a science which may bo tanght like other sciences. Ignorance is no more successful in commerce than in law or medicine. Let us, then, says every thinking man, havo schools and universities of business, as well as of law and of medicine. We believo that a branch in which tho great mass of our people are so intimately interested should not be neglected, and it therefore gives us pleasure to chronicle the marked success of the CALIFORNIA BUSINESS UNIVERSITY in our midst. This institution makes a fine display at our Fair. In the small art gallery, near the entrance to the Pavilion, are to be seen specimens of penmanship, pen-drawing, the diploma of tho University, etc. The business penmanship, evidently the specialty of tho University, is the best we have seen on this coast.

The telegraphic department of the Business University is situated at the right of the main entrance to the uppor art gallery, and attracts a great deal of attention from those anxions to learn the working of the telegraph. There are on exhibition two sets of instruments, illustrating the methods of receiving dispatches by both sound and paper. Theso instruments are connected by a line with the University, at the corner of Bush and Montgomery streets, and dispatches are being almost constantly sent back and fonrth by the students, who are pleased to explain the *modus operandi* to any one inquiring.

The visitors of the Fair who have never had an opportunity of visiting the University, can thus form a good idea of the virtue of this institution, and its mission in fitting young men for actual business. Its graduates are said to he competent to enter at once upon the duties of book-keepers, since they receive daily drill in all the dnties pertaining to an accountant's position, which are fully illustrated by *actual* practice. This system is greatly superior to the old theoretical method, and we are glad to see this school receiving the cordial support of our leading business men. It distictly shows that they do not regard business as mere luck or chance, but something to be learned by patient study and careful practice.

The University is under the charge of E. P. Heald, the first to introduce this actual business system upon the coast. It is now located at 204 Montgomery street, in the rooms recently occupied by the Mercantile Library, and is well worth a visit from all interested in edncational affairs.

WHAT is the difference betwecn the Hebrew idea of a slave and the modern notice of a wash-stand? The former is stated to be "a hewer of wood and drawer of water," while the latter is "a drawer of wood and ewer of water."

WE noticed by the card of Dr. L. Adams, for black, blue and red inks, that they are manufactured on a large scale, being for sale by the bottle or barrel—a great saving of expense to interior traders. The saving of freight on the glass must reduce the cost materially.

WHEN has a man four hands? When he doubles his fists.

BUERK'S

Watchman's Time Detector.

THIS WATCH-CLOCK WAS INTRODUCED TO THE public in almost every section of the United States and Canada about five years ago, and it has proved itself to be the best invention in the world for testing the faithfulness of Watchmen. Since its introduction, the Proprietor has improved on some parts, and corrected deficiencies and he has now

A Perfect Check upon the Watchman.

With other Clocks, a regular routine has to be followed, but with this a Watchman can be ordered to visit any particular place as often as required, without being compelled to go to places where it is not necessary to visit as often.

The instrument is complete in itself, portable, and as reliable as the best lever watch.

It is not so likely to become disarranged in its works as a good watch, because its parts are stronger. But when it needs cleaning, any common watchmaker can adjust it, its mechanism being simple. It requires no fixtures or wires communicating from room to room, as is the case with the ordinary Watch-Clocks; a small, inexpensive stationary key is alone required at each station. By its use places can be guarded that it would be impossible to guard with any other instrument, such as Railroad Tunnels, Bridges Yards, Shops, etc. The instrument will in all cases be warranted perfect and satisfactory. Its price is invariably *Seventy-five Dollars*, cash on delivery, including as many keys as are requisite, not exceeding twelve.

THIS WATCH-CLOCK IS SOLD AT A LESS PRICE THAN ANY OTHER IN THE MARKET.

The DETECTOR is used extensively by large Manufacturing Establishments and Railroad Companies in the United States, from whom numerous testimonials have been received.

☞This Detector is covered by two U. S patents. Parties using or selling these instruments without authority from me will be dealt with according to law.

N. B.—Parties purchasing these Clocks should test them sufficiently in the counting-room or office, as they will not be taken back after having been injured by the Watchman through carelessness.

All communications promptly attended to. Address

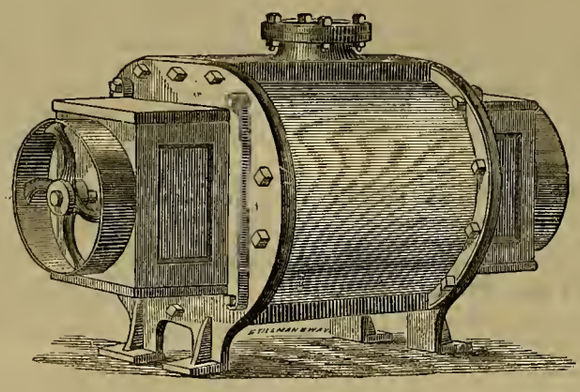
J. E. BUERK, Proprietor,
47 Congress street, Boston.

P. O. Box, No. 1057. 23v16-6m

ROOT'S PATENT FORCE BLAST ROTARY BLOWER.

Patented Nov. 1st, 1864; July 24, 1866; and Oct. 9, 1866.

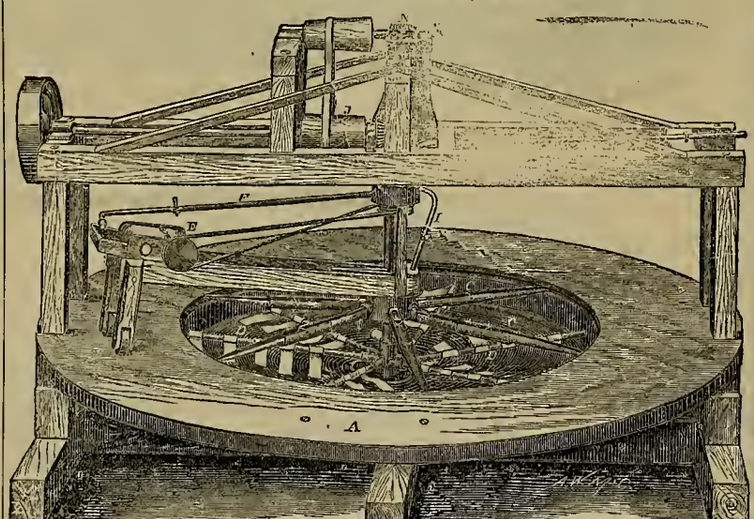
Awarded the First Premium at the Paris Exposition.



PAINE & STEPHENS'

IMPROVED CONCENTRATOR.

For Saving Gold and Silver Sulphrets.



This invention, a perspectivo view of which is given abovo, consists in applying machinery to the ordinary buddle, and rendering the same automatic in netion It is calculated to do a large amount of work.

One Machine, costing about $1,400, is sufficient to work the Sands from 25 to 30 Stamps. But very little power is required.

It can bo easily run by one man turning a crank. Tho principlo on which it works is entirely dissimilar from any other machine now used on tho Pacific Coast; although it is in almost universa use in Europe; but not so arranged thero as to be automatic in netion.

The illustration given herewith, was fully described in the Mining and Scientific Press of March 21, 1868.

One of theso machines may be seen in constant operation at the Eureka (Watt's) mine in Grass Valley, where it is giving the fullest satisfaction, and is working all the tailings from thirty stamps, Another machine may be seen at tho Banner mill, in Nevada, and a third below the Gould & Curry Company's mill, near Virginia City.

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13v16eow

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[Cut out and return this notice. 6v17-7t

MINING PRESS.—This old standard mining journal of the Pacific Coast, comes to us this week, number 1 of Volume XVII, and much improved in several particulars. A beautiful new head and heading letters throughout, make it the neatest, as it has always been the best, exponent of the industries of this coast. Every miner should take the PRESS. The subscription price is $5 per year, and the Postmaster at Monitor is an authorized agent.—*Alpine Miner July 4th.*

A New Balanced Oscillating Engine.

Tbonsands of visitors at the Fair have paused to admire tbe beautiful and exquisitely finisbed engine which runs in connection witb our DAILY FAIR PRESS, supplying tbe power for the same. So small and compact is tbis engine tbat one could seemingly take it in the band, or pack it in a valise and walk off with it at ease, and yet it is rated as a 9-horse power machine. It is probably the finest finished piece of operative mecbanism in the whole exhibition.

Messrs. Detrick & Eckart are the inventors and builders, both of wbom are young men, connected with H. J. Booth & Co's Uuion Foundry, of tbis city—Mr. Detrick being foreman of the finishing department, and Mr. Eckart draughtsman and civil engineer. Both are deserving of much credit for their skill and perseverance in bringing out so bandsomely constructed an engine, and so promising an invention. By special request we have been furnished tbe following description of its principles and operations:

This is tbe first practical solution of the mechanical problem of working two pistons in an oscillating cylinder. Tbe many advantages to be derived from this style of engine makes it very desirable; for great speed, small space and large effective power are obtained by this metbod. The cylinder is perfectly balanced, and has no friction on the trunnions, except wbat is due to tbe weigbt of the cylinder, all otber frictional points are neutralized by the combination of two pistons, and being balanced, any speed may be used to suit condition of work, or fancy of owner. As a propeller engine, it supplies a much needed want, namely, an engine to take up small space in the center of boat below water line, that will permit the propeller shaft to be placed yet below it and all parts be accessible, combined with good speed and few working parts. This engine has no slides and but two strap joints, with the requisite number of bearings for the two crank shafts and propeller shaft. The advantages of this engine over other oscillators are due to tbe peculiar manner in which the pressure is received and delivered from tbe pistons. The pistons being so connected as to move to and from the center of oscillation simultaneously, under the same pressure and velocity, all strain and friction due to action of the steam (or motive power) is removed from the trunnions. As eacb piston separately travels througb but one half the stroke, the oscillation of the cylinder is but one-balf that of tbe ordinary oscillating engine. In tbe ordinary construction of oscillating engines, the movement of the cylinder is produced by the piston rod, and in consequence tbe rod bas to be made much longer in diameter, and the stuffing boxes and glands mucb deeper and stronger, and in many cases guides have had to be substituted to overcome the great friction produced by the action of steam on tbe trunnions, which in this engine is entirely obviated. As before stated, there being no strain on the trunnions, there can be no tendency to move the bed-plate, and the engine can be run up to any number of revolutions without producing auy vibration on its supporting mechanism, which, for hoisting, propeller and portable engines, is very desirable.

Under the speed of piston at which the one now at the Fair can be seen traveling, the horse-power, with 60 pounds of steam is nine, and the total weight of engine and bed-plate complete, is less than 200 pounds.

These engines can be built either with gears, as the present one, or with crank shaft. The gears offer the facility of gearing up the shaft to any required speed, either faster or slower than the engine. The shafts will allow the engine to be placed nearer the kelson of the vessel.

QUARTZ veins containing considerable gold, have been discovered in a spur of the Blue Ridge, near Frederick, Md., says the Frederick *Union*.

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BY DEWEY & CO., Patent Solicitors. SAN FRANCISCO, SATURDAY, SEPTEMBER 12, 1868. VOLUME XVII. Number 11.

Rudolph's Patent Gun-Lock.

The improvement in gun-locks, herewith illustrated, was patented in the United States April 17th, 1866, by Wm. Rudolph. The first figure represents a side sectional view, showing the main-spring, tumbler, etc., all of which are contained in the opening, just the thickness of the main lock plate. The second figure shows the outer plate, and the third and fourth figures the inside plate. These onter and inner plates form a perfect covering of the operative portion of the lock, strengthening it and protecting it from the effects of powder, dirt, dampness, otc.; rendering cleaning seldom necessary.



RUDOLPH'S PATENT GUN-LOCK.

By inserting the operative portion of the lock in the opening within the main plate, the lock as a whole is made thinner and lighter than the ordinary lock, as shown in the edge view in the figure on the left of the engraving. It strengthens instead of weakening the gun-stock, as in case of the old style lock.

Many of these locks are in use in this State, giving good satisfaction, and the fact that the lock has proved a success adds interest to its illustration in our columns.

Mr. Rudolph has also secured through our agency patents for Great Britain, Belgium, Russia, Prussia, and France, in which countries locks are now being manufactured.

The patentee has now briskly in operation, at 216 Pacific street, the first gun factory worked by steam on the Pacific Coast. He employs superior workmen, and the most complete set of tools of any shop in the State. Nothing but guns are made at this shop, and those for close shooting are made a specialty with Mr. Rudolph. We believe the invention to be one which will meet with general application, and a credit to California ingenuity. Mr. R. makes a creditable display of guns, pistols, and gunsmiths' work at the Pavilion, near the Golden Gate Pottery stand.

REFINING SUGAR BY ELECTRICITY.—It has been found by experiments that a stream of electricity derived from a powerful electro-magnetic machine driven through a solution of brown unrefined sugar will bleach it, electricity being thus made to perform the function of charcoal. It appears that one of Wilde's electro-magnetic machines, driven by a 15-horse power engine, has been set up for this object in a sugar refinery in Whitechapel.

MACHINE FOR MINING UNDER WATER.—W. T. Duval, of Georgetown, D. C., has just patented an apparatus applicable to the recovery of gold or other metallic deposits found in the beds of streams, and the removal of sand-bars or other similar obstructions to navigation. It is based upon the application of the principle of exhaustion to produce rapid currents of air or water. For working in water a vessel of suitable construction is provided with a steam engine and rotary or centrifugal pump, to which the suction-pipe is so applied as to be capable of extension to any desired length, and susceptible of reciprocating vertically, oscillating, or of rotary motion, so that while the pump is at work and producing a current at great velocity, the suction-pipe, being provided with a suitable appliance at its lower end, may be used to dig, bore, or otherwise loosen the deposit, which is immediately drawn up and discharged by the pump into a separating apparatus, upon the principle of that patented by the same inventor on Oct. 15th, 1867.

FIRE CLAY.—A good article of clay has been found at Michigan Bar, Sacramento County, where a pottery has been established, and fire-brick has been turned out equal to the best English imported, having been used in Coney & Bigelow's furnaces.

CONTINENTAL Life Insurance Company, 302 Montgomery street, corner of Pine.

CATALOGUE OF THE SIXTH INDUSTRIAL EXHIBITION OF THE MECHANICS' INSTITUTE.

The following catalogue embraces the entries receipted for by the Clerks of the Board of Managers, arranged in classes and subdivisions, with the names of the Judges of Awards. The list is copied from the books of the Board, and as it is more than likely that errors and omissions have occurred, it is presumed the publication of the catalogue in this form will assist in obtaining a correct list for the final report of the Fair. Parties who may discover any inaccuracies are requested to report the same at the office of the Board of Managers.

INSTITUTE MEDAL.—Judges to award gold medal to that invention, industry, product or manufacture judged to be of greatest benefit and value to California: F. F. Low, R. B. Swain, L. Pickering, James Pollack, J. M. Eckfeldt.

Class 1.

SECTION 1. Steam Engines, comprising Stationary, Marine and Fire, Locomotives; also, Boilers, and Improvements thereon. Judges: Wm. Burnett, Mont. Fletcher, J. Swyney.

22. S. C. Higgins, horizontal steam engine, made by an apprentice.
48. Robert Blair, horizontal steam engine, made by an apprentice.
104. J. L. Constable, new mode of generating steam.
112. Swyney & Smith, drawing of an improved horizontal engine.
211. C. H. Foster, model of California invented steam engine.
269. J. M. Greiss, model of California invented walking-beam engine.
57. Levy & Haley, patent fire extinguisher.
109. Risdon Boiler and Locomotive Works, California made steel boiler.
144. Ætna Iron Works, 2 sets Bemis' grate bars, California invention.
145. Robert L. Harris, two sets Carvalho's steam superheaters.
184. Howland, Angell & Co., two Hicks engines and boilers
199. Detrick & Eckart, California invented oscillating engine.
—— H. B. Martin & Co., California invented oscillating engine.
292. R. Wells, equilibrium steam engine.
263. Henry Tripp, model of locomotive, in working order.
393. McAlfico, Spiers & Co., Christoffel & Booth's Patent Elliptic Boiler Scraper.
—— H. J. Booth & Co., Scott & Eckart's self-regulator and cut-off engine.
—— Goddard & Co., Pacific Iron Works, Wright's patent variable cut-off engine.

SECTION 2. Motive Powers, comprising Air Engines, Eclectic Engines and all Motive Powers, Turbines, Water Wheels, Windmills, etc. Judges: Joseph Mooro, Geo. K. Gluyas, Wm. McKibben.

285. Attwood & Bodwell, California invented windmill.
183. E. O. Hunt, windmill model.
365. W. J. Tustin, windmill.

Class 2.

SECTION 1. Machinery for Working Metals. Judges: H. P. Brunner, E. T. Steen, D. B. Hluckley.

81. Fornbnis, hydraulic blower.
114. Goff & Bishop, California invented crank-pin and crosshead lathe.
189. Marsh, Pillsbury & Co., fan blower.
353. N. Lumsden, California invented apparatus for making screwed boots and shoes.
354. Attwood & Bodwell, model of self-lubricating journal.
2. Peterson & Jones, patent spring hammer, California invention.
64. Wm. Rudolph, patent turning-lathe.
136. J. Dougberty, self-regulating thread-cutting machine.
164. C. F. Robinson, Rose's patent tire upsetter.
197. J. S. Detrick, eccentric chuck.
200. Kittredge & Leavitt, one punch and two pairs shears.
170. Hughes, Kimball & Co., one tire upsetter.
340. Andrew Spaulding, watchmaker's lathe.
13. D. E. E. Winchell, Roger's portable forge.
5. A. S. Hallidie, machine for making wire rope, California invention.
—— Nelson & Doble, drilling machine.

SECTION 2. Machines for Working Woods. Judges: D. A. Macdonald, Wm. N. Miller, C. W. Thomas.

137. F. A. Huntington, shingle machine.
190. I. H. Small, planing machine.
209. J. W. Alesworth, machine for beveling barrel staves
384. James Hatch, guards and guides for molding, California invention.
157. Jas. Hatch, improved mortising chisel, California invention and patent.

SECTION 3. Agricultural Machinery. Judges: W. C. Bartlett, Rev. Horatio Stebbins, C., L. Low, R. B. Woodward, Samuel Dinsmore.

262. Coffin & Standish, California invention steam plow.
280. J. Marquis, model of steam plow.
6. J. & J. Ingham, San José, gang plow.
51. F. V. Lamb, vegetable root cutter.
141. M. C. Hawley & Co., agricultural implements.
142. Hawley & Co., three clipper mowers.
171. A. Hunter, grain separator, California invention.
176. Ed. Kimball, gang plow.
182. D. Winter & Co., combined seed-sower and cultivator.
185. Baker & Hamilton, sweepstakes gang plow, etc.
212. W. H. Weister, Randall's patent sulky rake.
212. Baker & Hamilton, combined Shaker reaper and mower.
265. Dexter & Lambert, California made cultivator.
305. A. Hunter, rake, hay and grain-loading machine.

SECTION 4. Miscellaneous and Manufacturing Machinery, etc. Judges: J. Spiers, Robt. Carlisle, N. W. Spaulding

65. Pacific Woolen Mills, machine for knitting socks, drawers, shirts, etc.
233. Wm. Lyne, machine for picking hair.
—— Spaulding & Co., carpet-beating machine.

15. Robert Hewston, self-generating gas machine.
47. Pioneer Woolen Factory, fancy loom.
134. Geo. E. Butler, family knitting machine.
178. J. Newman, silk loom.

Class 3.

SECTION 1. Machinery for Mining, Tunnelling, Metallurgical Processes; Crushers, Stamps, Grinders, Pulverizers, Amalgamators, Conveyances; Furnaces for Roasting; Hoists, etc. Judges: Jos. Moore, M. Attwood, R. Watt.

19. Mrs. E. J. Hall, drawing of patent smelting furnace.
108. A. Herdlein, model of improved stamp mill.
199. G. H. Leland, model of improved quartz battery and screen.
12. Vulcan Iron Works, Moore's patent hoist.
300. J. W. McKenzie, patent self-adjusting truck for flagstaffs.
83. J. B. Johnson, patent California invented friction hoist.
131. J. Hendy, two improved concentrators.
135. A. M. Burns, Slusser's self-loading excavator.
150. Miners' Foundry, Howland, Angell & Co., McAuley's rope hose covering.
189. W. H. Hepburn, California invented amalgamators.
193. Hinkle & Capp, grinder and amalgamator.
201. J. C. Kernan, concentrator.
335. Varney & Rix, rock crusher.
373. Dewey & Co., for John A. Collins, model of amalgamator.
375. Thos. Varney, amalgamator, with improvements.
385. John A. Collins, oscillating quartz crusher.
20. V. Smith, new principle quartz mill.
—— M. Hungerford, concentrators.

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SECTION 2. Pumps, Hose Pipes, Nozzles, Couplings, Apparatus for burning Petroleum, as Steam, Fuel, etc. Judges: D. E. Hayes, Chas. Elliott, Geo. Fogg.

26. W. Cushing & Co., Excelsior double acting force-pump.
45. G. Munson, California submerged pump.
78. G. M. Gerrish, submerged pump.
180. L. D. Craig, globe hydraulic nozzle and coupling, California invention.
183. E. O. Hunt, three California patent pumps.
280. Vulcan Iron Works, centrifugal pump.
292. H. B. Martin & Co., force pump, California invention.
297. M. D. Lasswell, artesian pumps, submerged pumps, windmill pumps, stock pumps, brass force pumps, Golden State double-acting force pump—all California invention and make.
310. A. J. Smith, Hudson pump.
361. W. D. Hooker, steam pump, California invention.
383. Ætna Iron Works, patent steam pump, Dunbar's self-adjusting steam piston packing, iron furnace in operation.
41. David Stoddart, Cameron's steam pumps, governors and injectors.
—— Pacific Pump Manufacturing Co., American submerged pump.

Class 4.

Models of Vessels, etc., Tackles, Rigging and General Improvements, including Hemp and Metallic Cordage. Judges: J. M. Selden, A. T. Fletcher, A. M. Westervelt.

4. Tubbs & Co., California made rope.
8. A. E. Larssen, models of vessels.
14. T. F. Mitchell, California made blocks and sheaves.
45. H. A. Jacobsin, model of vessel.
64. Geo. Howes & Co., model of "Young America."
96. W. T. Herrick, model propeller.
111. J. Shunhoff, model steamboat (tin).
116. A. Wingard, model patent steamboat wheel.
117. T. B. Roche, patent swivel shackle, California invention.
250. F. Desbarbieux, plaster model of propeller.
252. J Franklin, model of ship.
265. W. M. Ryan, model of vessel, and carved walnuts teeth.
270. E. C. Rowe, ivory model schooner.
333. Mrs. A. Rodgers, model of steamship "Zoe."
375. L. T. Lewis, model of merchantman.
30. Gustavus Jessen, model of "Shubrick."
12. E. T. Barlow, patent anchor and chain.
207. N. B. Adams, two combination boat-detaching blocks.
244. Wm. Rumwell, model of ship.
254. J. C. Cousins, two models of boats.
273. John Daly, model of schooner.
360. R. L. Ogden, model of yacht.
41. S. Marion, model of ship.
24. Capt. Wylie, steamship and model of ship.
38. J. E. Thayer, four models of ships.

Class 5.

Military Engineering, Armor, Accoutrements, Ordnance, Small Arms, Tents and Camp Equipage, Gunpowder and other explosives, Matches and Fireworks. Judges: S. R. Ellis, H. F. Pippy, J. J. Haley.

33. Church & Clark, California made fireworks.
132. Wm. Rudolph, 1 case arms, etc., California make and invention.
137. Pacific Powder Mills, California made powder.
148. Snyder & Browning, case gun material.
290. San Francisco Percussion Match Company, California made matches.
113. Wm. H. Jessup & Co., California made matches.
225. California Powder Works, California made powder.
262. Pioneer Fuse Company, California made fuse.
368. Giant Powder Company, samples Giant powder.

Class 6.

Civil Engineering and Architecture, and other building contrivances; Sanitary and other improvements; Architectural, and Railroad, and Bridge Drawings. Judges: Geo. Gordon, H. C. Macy, Col. Bulkley.

37. Swyney & Smith, drawing of Hallidie's patent wire suspension bridge.
359. H. Lombard, patent chimney top.
369. W. H. Harvie, patent hop kiln.
60. Wm. McKibben, metal sewer bell or valve.
251. Wm. O. Murtha, patent chimney top.
175. F. J. Davenport, redwood railroad tie and post.
187. A. C. Taylor, kitchen sink and hopper, etc.
303. Dr. Beers, improved railroad ear.
333. Chas. Darber, section of foundation of railroad bridge post.
336. J. W. Pearce, model of inclined track for mines.
34. H. Hale, W. L. Washburn's patent self regulating railroad car ventilator.

Class 7.

SECTION 1. Philosophical and other Instruments and Processes in which they are used, Mathematical Instruments and Balances, Nautical and Engineering Instruments. Judges: Sherman Day, Wm. Schmolz, Herman Shussler, E. H. Dyer.

197. T. Houseworth & Co., optical goods.
330. J. Roach, mathematical instruments.
41. Fire Alarm Tel. Co., telegraph instrument.
42. Lundberg & Marwedel, fire-alarm and telegraph instruments.
222. Cal. Business University, telegraph apparatus.
246. Pacific Business College, telegraph apparatus.
68. Fairbanks & Hutchinson, scales and money drawer.
86. E. H. Pratt, adjustable scale column, attached to Fairbank scale.

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SECTION 2. Surgical and Dental Instruments, and Dentistry in all its Branches. Judges: Dr. James Blake, Dr. H. Austin, Dr. C. C. Knowles.

74. G. W. Cool, dental goods.
89. D. S. Hutchinson, dental goods.
90. H. W. Calvert, dental goods.
142. Drs. Cogswell & Woodward, dental goods.
198. J. Jewett, Palmer's patent leg.
19. Dr. A. Folleau, orthopedical instruments.
80. M. M. Cook & Son, artificial legs, California made.
95. E. O. Belle, apparatus for extracting teeth, and case of dentistry.
99. A. W. Calder, dental goods.
302. Dr. J. C. Jessup, dental goods.

Class 8.

SECTION 1. Plain and Ornamental Castings, Stoves, Safes, and Wrought Iron Work; Shutters and General Blacksmithing Work. Judges: I. M. Scott, Chas. Steiger, J. R. Sluis, J. G. Ils, H. S. Smith.

124. M. Grogan, sample California made horse shoes.
283. Misgill & Cooper, sample California made horse shoes.
309. Betts & Fookes, buggy springs, California made.
71. Pacific Rolling Mills, California forging samples.
68. D. Jones, three sets axle-trees, California patent.
257. Pacific Rolling Mills, samples California forging.
372. Vulcan Iron Works, perforated grate bars, friction pawl, etc.
306. W. S. Kellum, spiral buggy springs.
281. W. N. Hendry, first piece casting ever made in California.
274. Taw, Brooks & Backus, cooking stoves, etc.
286. John Bohn, stoves, etc.
235. L. Cheills, two house safes, California made.
200. Kittredge & Leavitt, monitor safe, California made.
187. A. C. Taylor, stoves, sink and portable range, California manufacture.
156. Holbrook, Merrill & Co., stoves, etc.
315. M. B. Bullard, petroleum stoves.
339. T. C. Walter, model of range.
348. J. B. Owens, stoves, coal oil, lamps, etc.
118. ——Cronk's self condensing steam cooking apparatus.
§ 307. Jonathan Kittredge, two Monitor safes.

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SECTION 2. Tools, Saws, Hardware, Cutlery, etc.; Locks, Keys, and other Fastenings and Wire Goods. Judges: J. Hewston, Jr., A. A. Louderback, Walter N. Hawley, J. McGill, John Dickson.

27. B. L. Stone, patent burglar alarm.
13. F. Schoener, spun metal, California made.
83. D. F. Barrows, patent window springs, Jenks' patent.
133. C. Otto & Co., machinists' tools.
183. O. P. Oakley, door plates, bell hangings, etc.
188. M. Price, California made cutlery.
208. Boone & Lumsden, samples sail needles, California invention.
214. N. Hoffman, California made flower stands.
220. S. M. Briggs, Californ'a invention, mitre box.
256. Carl Hein, California made earing tools.
287. Pacific File Works, California made files.
340. V. T. Wilbert, patent safety hook.
346. W. C. Bussey, improved combination safety lock.
—— Isham Key, register locks.
3. H. T Graves, samples of wire goods and weather strips.
21. J. A. Hoffman, shutter holder.
28. H. J Booth & Co., quartz, slot and grain screens.
46. Will & Finck, cutlery and surgical instruments.
49. V. S. W. Parkhurst, combination locks and patent money drawer.
52. W. A. Sublett, improvement on window supporter.
92. R. L. Stone, 1 traveler's burglar alarm
39. Wm. Heney, combination brace or boring machine.
126. Pacific Saw Manufacturing Co., California made saws, etc.
121. Pacific Saw Manufacturing Co., Soper's hay knife.
122. A. M. Seaburg, patent wood saw and stretcher.
125. Robert Hewson, patent friction roller parlor skates.
128. Will & Finck, bell hanging, California manufacture.
139. S. F. Screen Works, improved quartz screens.
158. Miller's Adjustable Saw Tooth Co., California invented teeth for circular saw.
174. Nelson & Doble, blacksmith, miners, and stone cutter's tools.
192. Ball Bros., U. S. patent vices.
195. N. W. Spaulding, circular saws, inserted teeth, California invention.
198. Wm. Kewan, center radiating and adjustable square.
220. Pacific File Works, reaper sections, etc.
223. Frank Able, Gridley's patent weather strips.
226. J. Weichart, edge tools.
165. J. Gray, broom wire, California manufacture.
275. R. Riley, adjustable tongs, California invention.
317. Barker Spring and Butt Co., concealed door spring and reversible joint butt.
320. Alfred Swinkle, one gear drill.
345. E. Dougeon, Dudgeon's improved hydraulic jacks.
9. American Saw Co., sixteen saws.
319. Chas. Watson, set of tools for cutting threads.
29. P. Quigley, California-made carpenters' tools.
31. American Saw Co., Emerson's patent saw teeth.
—— J. H. Culver, improved caliper, California patent and manufacture.
180. L. D. Craig, combination hair-cutting shears.

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SECTION 3. Castings of Tin, Lead, Brass, and other Metals and Compositions and Brass Finishing. Judges: J. M. Eckfeldt, J. W. Brittan, W. W. Montague.

233. R. F. Ashburn, patent self-oiling cups.
335. W. T. Garratt, bells, cannon, and brass goods, California made.
304. Garvey & Kimball, California made gongs, etc.
42. Garvey & Kimball, California made bells.
62. Gallagher & Weed, brass goods, California made.
146. C. E. Blake, safety valve for fire hose.
278. C. Allison, hose couplings, California invention.
364. P. Caduc, water cock, California invention.

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SECTION 4. Copper Stills, Worms, Pipes and General Work, Lead Pipe, Sheet Lead and Shot, Plumbing, Gas-Fitting and Tinware. Judges: Melville Attwood, C. W. Smith, W. S. Snooks.

3. Dr. C. Farno, self-lighting gas-burner.
101. W. A. White, patent sad-iron holders.
212. Milliken & Johnson, California invention, self-soldering cock for tin cans, etc.
277. J. Sims, patent gas chandelier globe reflector.
296 R. B. Thomas, California patent submerged coffee boiler.
392. H. Wessels, revolving joint pipe.
150. W. Walmsley, artesian well pipes.
167. C. Newman, patent lamp burner and glass-melting pot.
183. John J. Hucks, portable gas lamps.
208. G. Reuben, patent sauce-pan covers.
217. T. H. Selby & Co., lead pipe, shot, etc., California made.
288. J. R. Whittemore, samples of Shocner's patent nochimney kerosene lamp burner, with J. B. Owens' goods.
329. Thos Ross, weather vane.
342. F. Rohrer, lamp extinguisher.

Class 9.

Glass, Pottery, Clayware, Glass-Blowing, Cutting and Coloring, Fire-Brick and Fire-Proof Ware, Brick, Tiles and Cement. Judges: Leon. M. Kellogg, James Harris, R. H. McDonald, N. P. Langland, Isaac E. Davis.

343. Menant's Asphaltum Co., new lot of asphaltum.
347. Benicia Cement Co., Benicia cement.
11. R. A. Swain & Co., China ware and fancy goods.
14. San Francisco Glass Works, California-made glass.
82. Pacific Glass Works, California-made glass.
107. Golden State Pottery, California-made pottery.
196. Pacific Concrete Co., side-walks, drain pipes.
290. Skinner & Flick, Excelsior sanitary pipe, California made.
332. Knapp & Grant, Roman cement.
10. Haynes & Lawton, glassware.
11. R. Mills, stained glass.
324. Noble & Gallagher, embossed glass.
103. Thomas O'Neil, ornamental cut and ground glass.
76. John Mallon, ornamental cut, ground and stained glass.
130. Robert Mills, embossed work on glass.

Class 10.

SECTION 1. Native and Foreign Wood, Sawed Timber or Lumber, and Its uses; Carpenters' (House) and Joiners' Work, Scrolling, Turning, Moulding, and Carving. Judges: James Easton, B. H. Freeman, N. P. Langland.

51. Blythe & Wetherbee, 1 stick Puget Sound timber (outside pavilion).
226. I. E. Thayer, California laurel wood.
231. J. Perkins, veneer and wall hangings.
282. A. Cameron, wood and ivory fruit basket.
281. C. Wulbrun, wooden puzzles.
136. Sheppard & Carroll, California made lasts.
368. I. E. Thayer, 1 stick California laurel (outside pavilion).
336. J. O. North, 1 stern-knee (outside pavilion).
1. H. E. Perry, model of wooden pavement, California invention.
38. J. W. Linsley, hat and wig blocks.
96. P. Gibot, spiral staircase, model.
224. A. E. H. Sturcken, improved window frames.
228. C. Romer, California polished wood.
168. P. H. Fluck, anatomical last.
315. Spurgeon & Rowland, California sugar pine planks.
341. James Behrens, tesselated pavement.
133. Bryant & Strahan, carved sideboard.
—— J. D. Boyd, native woods.

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SECTION 2. Casks, Barrels, Kegs, Tubs, Pails, etc.; Brushes, and Willow and Wooden-ware. Judges: P. M. Bowen, T. F. Neagle, Alex. Murdock.

55. Figer Bros., California made brushes.
129. Miss A. W. McClelland, Peterson's patent washing machine.
131. Feldmann, Simpson & Co., California made brushes.
141. G. A. Jones, washing machine.
144. M. Zan & Co., California made brooms.
183. Elam & Howes, California made wooden-ware.
236. Mr. Coleman, patent atmospheric churn.
342. G. E. Wenzell, California cask and oak.
5. C. W. Weston, cider presses.
12. Thurnauer & Zinn, willow and wooden-ware.
19. Morrison & Holland, Dixie washing machine.
22. J. Vail, 1 washing machine
51. F. B. Lamb, Pioneer washing machine.
63. Pacific Barrel and Keg Company, California made barrels and kegs.
114. P. Rasmunson, California washing machine.
140. California Wine Cooperage Company, California made wine casks.
249. J. S. Hittell, Poor Woman's Washing Machine.
213. Florent Eck, 2 tubs, 2 wooden pitchers.
267. H. Lundie, Wolverine washing machine.
377. J. N. Seeley, churn, wringer, etc.
28. Mrs. A. D. Waldron, "Wooden Washerwoman"
93. T. T. Hougbton, automatic clothes washer and boiler.

Class 11.

Minerals and Mineral Substances, Coal, etc. Judges: L. M. Kellogg, O. W. Easton, Melville Attwood.

46. North Star Gold Mining Co., specimens of ores and map.
123. G. Knstel, five cases mineral specimens.
271. D. E. Cotter, specimens from the Sandwich Islands.
204. Redington & Co., electro-silicon.
350. G. L. Wratten, electro-silicon.
205. M. Lane, silver ore from North Star ledge.
312. M. W. Baldwin, copper ore, Arizona.
335. Thos. C. Cave, quartz from Morning Star ledge, Nevada.
359. M. Scott, copper, silver and gold ores from Alpino County.
357. Oregon Iron Company, samples of iron and iron ore.

Class 12.

Chemical and Pharmaceutical Manufactures, as Alkalies, Acids, and all other manufactures and processes, Pharmaceutical substances and processes of production. Judges: Dr. James Blake, James Steele, Thomas Price, Arch. Cooper, E. T. Martin.

42. Mrs. H. T. Wood, 1 box patent ointment, California manufacture.
196. Crane & Brigham, case of California sulphate of copper.
253. Bay View Chemical Works, samples California made sal soda.
383. M. H. Garland, patent cough drops.
91. Dr. G. B. Tolman, one case chemicals, California manufacture.
31. S. Adams & Co., one case California made inks.
7. Standard Soap Company, one case chemicals.
74. H. H. Bancroft & Co., Occidental patent ink, California manufacture.

Class 13.

Jewelry, Silver and Plated Ware, made of Precious Metals, and their Imitations; Precious Stones, Lapidary Work, Gold Pens, Hair Jewelry, Plated Ware and Galvanized, Plastic, India Rubber Jewelry, etc. Judges: F. B. Hart, B. F. Avery, Job M. Seamans, O. Gori, W. T. Garratt.

115. John Martell, silver-plated coach material.
132. Vandersliee & Co., two cases California manufactured silver ware.
158. P. A. Giannini, three gold watches in Vandersliee case.
170. Mrs. C Cook, two cases hair jewelry.
228. W. Hollander, California invented watch alarm.
235. San Francisco Plating Works, plated ware, California manufacture.
267. Com. T. H. Allen, silver speaking trumpet.
307. C. H. Hain & Co., two cases silver ware, etc., and clock.
390. Wm. Lynch, silver shield, coat of arms of Ireland and America combined.
24. H. Wenzel, one clock, California manufacture.
55. Braverman & Levy, two cases containing silver ware.
181. Mrs. B. Uszynski, case of hair jewelry.
216. F. Heinze, one universal clock.
219. C. E. Collins & Co., one clock, California manufacture.
325. W. H. Lamb, rachet for watches and clocks.
195. R. F. Rocchiccoli, chased goods, candelabria in bronzed figures, California manufacture.
10. Haynes & Lawton, silver and plated ware.
43. Mrs. Bolander, hair jewelry.
153. O. B. Oakley, silver plating, silver ware, etc.
3. H. T. Graves, door plates and letter-box, sash plates and rods, etc.

Class 14.

Lithography, Engraving, Ornamental Printing, Book Binding, Ornamental Boxes, Printing Material, Paper, Penmanship. Judges: Jacob Bacon, J. J. Rey, E. Bosqui, H. H. Moore, James Linen.

16. F. E. Beck, specimens of penmanship, Lord's prayer.
17. P. Espina, San José, specimens of penmanship.
20. C. E. Wolf, map drawn with the pen.
21. California Business University, specimens of penmanship.
24. F. M. Truworthy, specimens stencil cutting.
36. J. B. Grouppe, wood engraving by boy 15 years old.
125. G. B. Hitchcock & Co., California made books, etc.
134. G. M. Wood, specimens of stencils.
193. J. P. Upton, specimens card printing.
287. Cubery & Co., specimens printing and frames.
293. L. M. Fernandez, specimens of penmanship.
374. H. Page & Co., samples of monograms.
120. J. Breidenstein, jewelry boxes and fancy ornaments.
322. J. M. Rice, paper made in Sandwich Islands.
329. E. S. Colburn, two pictures executed with a pen.
334. A. Mussard, four goblets, samples of engraving on glass.
345. Pacific Business College, specimens of penmanship.
370. T. Sargent, lithograph picture.
12. Knox & Roos, engraving.
15. W. V. Gray, lithograph of San Francisco and key.
20. A. Foreman, Foreman's improved type machine, California invention.
23. Wm. Faulkner & Son, type-casting machine
32. Palmer, Knox & Co., printing press and inking machine.
67. Wm. Wallace, fancy penmanship on cards.
74. H. H. Bancroft & Co., publications and patent ink.
97. Dewey & Co., proprietors of the MINING AND SCIENTIFIC PRESS, one printing press, issuing, gratuitously, the third volume of the MECHANICS' FAIR DAILY PRESS.
112. J. G. Hodge & Co., stationery.
126. Frank G. Edwards, machine for manufacturing wall paper.
138. S. P. Taylor, California made paper.
211. Teubner & Hoffman, jewelry boxes.
231. J. Girvin, paper mills from Sandwich Islands.
255. S. Whitney, set California Reports and Practice Acts.
270. Miss A. W. McClelland, wood engraving.
309. H. C. Bateman, one case Bibles.
311. Mrs. B. V. Nichols, one pen drawing.
321. J. T. Bardwell, 1 lithograph.
332. Geo. B. Hitchcock & Co., copying presses, California made.
113. F. Entz, paper stencils.
148. W. Holt, penmanship and material.
—— W. B. Cooke & Co., books, stationery, etc.

Class 15.

Wagons and Carriages, etc. Judges: H. M. Newhall, John W. Farran, H. W. Byington, H. M. Black, F. Kohler.

154. A. Folsom, buggies and wagons, California made.
273. G. P. Kimball & Co., buggies and wagons, California made.
84. C. A. Fargo, patent brake and wagon, California invention.
200. Casebolt & Kern, four buggies.
256. J. H. Arnold, adjustable carriage pole.
294. Charles A. Way, velocipede, California invention.
322. Moore & Edwards, buggy, with an attachment to prevent horses from running away.
345. Deitz & Co., buggy shackle.
366. F. A. Huntington, buggy.
374. Gallagher Bros., butcher cart.

Class 16.

SECTION 1. Harness and Saddlery. Judges: W. H. Baxter, J. B. Dorr, Josiah Swain.

312. Main & Winchester, Saddlery and Harness.
316. J. Hamilton, circus performer's saddle.
80. Main & Winchester, harness, robes, whips, etc.
130. G. Vellengar, saddles in case.
153. F. T. Houghton, side saddles.
323. A. P. Beatty, San José, one bullion bridle.
98. M. M. Cook & Son, California made collars.

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SECTION 2. Boots, Shoes and Leather. Judges: J. C. Johnson, T. R. Hayes, J. B. Roberts.

32. Co-operative Union, California made boots and shoes.
180. P. Kelly, California made boots.
234. W. F. Burke, California made boots.
247. L. Price, California made boots.
279. Wm. Bloom, California made sheep-skins, alum tanned.
380. Mrs. S. F. Kendrick, Chilcott's patent flexible boots and shoes.
110. L. Hoffman & Co., California tanned calf and kip skins.
119. Pacific Tannery and Boot & Shoe Co., California made leather and boots and shoes.
248. Tyler Curtis & Co., California manufactured leather.
290. Wentworth, Hobart & Co., California manufactured boots and shoes.
351. Buckingham & Hecht, California manufactured boots and shoes, and wire quilting machine.
393. A. H. Hale, Hill's patent elastic inner soles.

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SECTION 3. Hose, Trunks, Valises, Carpet Rags, Leather Buckets and Fire Caps. Judges: Wm. Sherman, W. S. Phelps, F. E. R. Whitney.

98. M. M. Cook & Son, fire hose and belting.
67. Henston, Hastings & Co., trunks, valises, etc.
72. E. Galpen & Co., trunks, valises and carpet bags, California made.
75. J. Pointer & Co., trunks, valises, etc., California made.
164. H. Royer, leather belting and lacing,
191. J. J. Fulton, fire hose.
284. French & Co., trunks, etc., California made.
—— Mrs. H. L. Webb, new patent California trunk.

Class 17.

Signs, Wood, Glass and House Painting; Graining of Wood and Marble. Stalking and Polishing Wood, Block Letters, and Engraved Signs on Metal. Judges: Henry Kenitzer C. E. Lang, L. M. Kellogg.

52. Horst & Visby, samples decorative painting.
165. J. W. Cherry, sign painting and block letters.
183. Geo. A. Brush, sample of painted doors.
87. Wm. Patterson, metallic signs.
371. John D. Boyd, wood polishing.
96. P. Gibot, block letters.

Class 18.

Plain and Ornamental Furniture, Inlaid Work, School Furniture, Desks and Show Cases, Billiard Tables and Balls, and Works for Amusement. Judges: James Easton, A. Cuneri, Chas. M. Plum, Geo. T. Grimes, J. G. Eldredge, H. Steinnigger, H. J. M. Trout.

23. Eureka Hair Co., two bales Eureka hair.
25. Wm. A. Byrnes, cricket and base ball bat.
35. Dr. C. Farno, checker-board table.
63. C. D. Hinckley, samples of wire and bed springs.
94. Moore, Westley & Co., California invented bedstead (model).
161. F. Dreyfelicher, inlaid box.
167. W. S. Torrey, bedstead, with California invented mattresses.
176. Kruger & Slocum, two bedsteads with patent spring bed.
177. W. L. Torrey, three bedsteads and one lounge, patent spring.
232. L. Castagnino, California made furniture, inlaid.
241. R. Leschfeld, two California made billiard tables.
261. Schueter & Volkening, cornice and drapery of paper.
276. G. W. Sharp, one bottle samples of California pulu.
305. C. H. Jenkins, inlaid table.
324. C. Newbeia, laurel wood writing desk.
326. J. Moyle, one inlaid box.
337. Johnson & Rest, secretary book-case.
367. E. Lamy, nineteen black walnut brackets.
371. John D. Boyd laurel furniture, California made.
376. T. Westley, model California patent sofa bed.
85. Goodwin & Co., California manufactured furniture.
38. Pacific Rubber Stamp Co., samples elastic sponge.
148. W. Holt, school furniture.
151. McElwee & Ackerman, carpets, curtains, etc.
155. S. Tonnar, rustic settees and chairs.
166. T. T. Wimship, inlaid box made on board "Shubrick."
172. G. Rolland, California made inlaid floor.
194. Strahle & Hughes, California made billiard table.
206. S. T. Damon, patent baby tender.
254. Wismore & Palmer, cabinet furniture.
216. J. Beauchamp & Co., Eureka turnitnre polish.
343. N. P. Cole & Co., California made furniture.
79. J. D. Patrick, California invented bowning alley.
26. Phillip Ilinkle, two folding spring patent bedsteads.
30. Jones, Wool, Whittier & Fuller, looking-glass and frames.
123. S. C. Bradshaw, Payson's gymnastic swing.
—— Snow & Roos, one carved and gold picture frame,
—— James Lick, thirteen frames ornamental gilding.

Class 19.

SECTION 1. Work from Real and Imitation Stone, Marble, Plain and Ornamental Work; Emery, Polishing Powders, etc. Judges: Louis Larseneur, F. Williams, Wm. Patton.

150. S. Dinsmore, two inlaid marble top tables.
242. M. Heverin, two marble mantels.
148. Thomas Robinson, California grindstone, from Alameda County.
203. E. T. Steen, patent artificial stone, California manufacture.

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SECTION 2. Sculpture in Stone and Plaster, Works of Art, and Ornaments in Stone or Plaster of Paris; Castings, etc. Judges: Joseph Britton, B. R. Norton, O. Gori.

168. P. Mczarra, busts in plaster, etc.
285. Arthur Lemmon, one bust and column.
201. P. J. Devine, one bust in marble, made by exhibitor
54. R. H. Stretch, plaster model of Virginia City.
56. Sam'l Kellett, plaster ornaments.
238. A. Petanghi, "Sleeping Child," in marble.

Class 20.

Oil, Soap, Candles, Whale, Lard, Sperm, and Fat, and Animal Oils: Linseed Oil, Olive, Castor Oil, Turpentine, Pitch, Tar, Resin, Camphine, Soap, Petroleum Oils, Paints, and Colors. Judges: R. H. McDonald, Charles Langley, J. R. Deane, W. B. Swain, W. R. Cranna.

56. Pacific Oil and Lead Works, samples California made oils.
92. O. A. Olmstead, mineral paints, from Sonoma County.
105. Epes & E. G. R. Ellery, patent India rubber paint.
185. Wm. Parsons & Co., Bowman's washing compound.
286. Whittier, Fuller & Co., neatsfoot oil and glue.
295. San Francisco Candle Company, California made candles.
7 Standard Soap Company, California made soap and candles.
16. J. Herkimer, California made blacking.
33. H. Lake, California made blacking.
53. Eureka Soap Company, California made soap.
59. C. G. Kelly & Co., washing fluid, etc.
109. John J. Hucks, axle grease.
289. Hill & Terreynes, California paint, etc.
300. G. Louis, California olive oil.

Class 21.

SECTION 1. Paintings in Oil and Water Colors, and Crayons. Judges: J. Mora Moss, B. P. Avery, Noah Brooks, F. B. Harte.

1. Emma Krans, crayon drawing.
30. M. Burgess, ninety-seven crayon drawings.
71. J. Reynault, one picture by a child aged 14 years.
79. G. H. Burgess, water color painting.
84. Mrs. S. M. Brady, one oil painting.
98. Mrs. N. W. Hutchinson, two oil paintings.
110. C. Gallman, oil painting by girl 14 years of age.
117. J. W. Mahood, drawing of fish by girl 12 years of ago.
119. Miss C. Mahood, drawing by girl 13 years of age.
147. Jas. A. Kerr, three water color paintings.
155. E. Schmidt, one water-color painting.
156. L. Schmidt, one water-color painting.
180. W. H. Hilton, Indian sketches, "Arizona Life" and "Crossing of San Pedro River."
163. H. J. Frey, thirteen oil paintings.
169. Geo. Howes & Co., water color, "Viscata."
184. Wm. Blair, oil paintings.
184. Miss McKee, oil paintings.
221. Mrs. A. McHenry, three oil paintings.
238. Geo. B. Butler, six oil paintings (artist left handed, lost right arm).
248. Nahl Bros., oil paintings.
272. H. W. Vaughan, oil and water-colors and India ink portraits.
289. Jenkins, three oil paintings.
269. Miss Fannie E. Hawley, three pastel paintings.
304. S. George, two pastel paintings.
372. Miss G. Martense, one porcelain painting.
373. H. Fletcher, thirty assorted sketches and paintings
376. H. O. Young, oil painting, "Vernal Fall."
382. Mrs. H. S. Huntington, medley picture.
384. W. J. Halsey, twelve sketches of Alaska.
25. B. J. Booth & Co., three drawings of engines.
61. M. Bush, oil paintings.
94. G. H. Goddard, ten water colors.
102. Geo. Pardy, two drawings of engines.
149. R. H. Stretch, map of Comstock-Potosi mine.
179. James Wise, eleven portraits in oil.
214. D. Ebbets, two pictures.
245. Miss Ivy Wandesford, one oil painting.
247. R. Winter, one oil painting.
249. R. G. Holdredge, one oil painting.
254. J. C. Cousins, two pictures of boats.
260. E. Barron, oil painting, fruit and flowers.
261. E. Rrodie, drawing of boat on lake.
279. Agnes Pendergast, one picture.
284. J. B. Harmon, two drawings.
285. Otto Schrader Bros., twelve figures and sketches.
321. J. L. Bardwell, four oil paintings.

311. Wm. Dye, one oil painting.
317. Mrs. J. H. Holt, water color.
318. T. J. Whinfip, photograph of pencil drawings of the "Shubrick" and Shubrickville.
357. R. Mcquillan, framed view of San Francisco.
360. Dr. J. H. Wood, two frame pictures.
3 Ernest Narjot, six oil paintings.
4 A. K. Kipps, two oil paintings.
5 J. H. Woods, fifteen oil paintings.
12. Snow & Ross, paintings.
14. Mr. Marple, four oil paintings.
22. K. K. Pope, two pictures.
27. Samuel M. Brooks, one picture and half portrait of a lady.
341. Reymon Aquirne, two framed crayon drawings.
2 Robt Sambich, porcelain paintings.
66. Mrs. J. W. Thomas, three paintings.

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Section 2. Photographic Views and Material. Judges: J. J. Bey, P. A. Barry, J. R. Jarboe, J. Mora Moss, J. B. Wandestord.

214. Nahl Bros., photographs.
50. S. M. Klein, fifty-eight photographic views.
66. Mrs. J. W. Thomas, three paintings.
— Hutton & Kohler, drawing of San Francisco, recreation grounds, in water colors.
89. P. E. Mills, six autho-photoscopes, California Invention.
223. Stration Bros., photographs, moving of Mechanics' Il tel
58. T. Houseworth & Co., stereoscopes and views of Pacific Coast scenery; forty-two wall pictures Yo-Semite and Mammoth Trees.
152. Dr. J. Streutzel, one photograph.
228. Bradley & Rulofson, photographs.
231. Pacific Iron Works, photographs of machine shop.
258. Miss Remmus, photographs.
5. S setter, twenty-six photographs.
6. W. Y. Gray, six retouched photographs.
7. C. E. Watkins, sixty-two assorted photographic views
13. Bayley & Cramer, eighty assorted photographs.
272. H. W. Vaughn, photographs.

Class 22.

All Kinds of Musical Instruments. Judges: R. Herold, Geo. Peithios, T. E. Smith, G. T. Evans.

147. A. A. Rosenberg, two pianos and two organs.
160. G. Rudolf, two California made pianos.
191. C. Welderhold & Co., one grand and one upright piano.
218. Jacob Zech, four California made pianos.
229. J. D. Patrick, California invention, piano, "Pupils' Monitor."
288. John G. Dawes, California made flutes, etc.
218. J. F. Bowers, two pianos and four organs.
282. M. Lawton, one small toy piano.
259. C. C Keene, musical instruments.
335. L. P. McCarty, musical map.

Class 23.

Woolen and Mixed Goods, Knit Goods, and Cotton Goods. Judges: Peter Thompson, Jonas Adler, G. F. Waltor, C. J. Jansen, H. N. Miller.

25. Mission Woolen Mills, California made woolen goods.
85. Pacific Woolen Mills, California made woolen hosiery.
74. Marysville Woolen Mills, California made woolen goods.
338. Oakland Cotton Mills, California made cotton goods.
— Pioneer Woolen Mills, California made woolen goods.

Class 24.

Furs, Mens' and Boys' Clothing, Hats and Caps not made of Leather. Judges: T. Van Tassell, C. A. McNulty, H. M. Lockwood, Charles Nickerson, Samuel Bridge, E. Kenedy, Wm. Drury.

59. H. M. Helneman, neck ties, California manufacture.
68. J. DeBarr, umbrellas, California manufacture.
82. A. Lanott, hats and caps, California manufacture.
145. R. M. Adams, hats and caps, California manufacture.
246. H. Leibes & Co., fancy furs.
248. C. T. Blake, military goods.
254. K. Meussdorfer, hats, caps, etc.
261. Landrum, Butterdeid & Sou, cashmere goat skin and Cotswold sheep skir.
291. J. Figel, California made clothing.
317. S. Relnstein, California made clothing.
318. T. R. Johnson, military goods, etc.
349. S. Figel, California made clothing.
355. D. Noreross, California made regalia.
19. S. Appel, oil clothing.
44. J. Alsop, California made parasols.
77. Joseph Lancaster, domestic made clothing.
108. M. Esberg, California made shirts.
169. Joseph Bros., California made boys' clothing.
304 Wm. Clayton, two dog-hair overcoats from Alaska.
178. Ladies' Co-operative Union, shirts and clothing and dressing gown.
— A Muller, furs, etc.

Class 25.

California Silk, and Articles made there from Silkworms and Culture. Judges: A. D. Bell, Geo. Huntsman, L. Sachs.

200. T. A. Garey, California silk cocoons.
161. J. Prevost, California silk-worms, cocoons, etc.
178. J. Newman, silk, California manufacture.
230. J. Smith, Sacramento, cocoons, mulberry trees, etc.
241. I. N. Hoag, cocoons, mulberry trees, etc.
242. J. S. Harbison, mulberry trees.
386. A. F. Goddard, Sacramento, cocoons.
345. R. Williamson, two mulberry trees.
397. A. A. Goddard, one mulberry tree.

Class 26.

Dress making, Millinery and Fancy Goods. The Committee will take no notice of Sewing Machines, or their work, or attachments in any way. Judges: Mrs. Captain Connor, Mrs. Henry Carlton, Mrs. P. Caduc, Mrs. H. M. Newhall, Mrs. J. B. Harmstead.

84. Mrs. S. M. Brady, two pieces crochet work.
6. S. Rosenblatt, dresses, shawls, etc.
31. Josephine Benheim, worsted boquet.
34. Mrs. C. Sullivan, embroidered and stamped goods.
39. Mrs. R. Kirwin, children's clothing.
43. Mrs. A. Botander, embroidery and stamping.
47. Mrs. J. Hammersmith, two pair stockings, footed by hand.
49. Miss J. Jacobs, worsted piece, "The Reaper,"
54. Miss C. Goldstein, embroidered pin cushion.
65. Miss A. Good, silk quilt.
70. Miss E. M. Kingsley, embroidered piece.
72. Mrs. E. Linehan, patchwork quilt.
73. Miss A. Sullivan, embroidered and two table-covers.
76 Miss J. E. Greer, worsted ottoman cover
77. Ladies Depository, ladies and childrens' clothing.
78. Mrs. E. Rudolf, embroidered piece.
75. Miss A. D. Baker, worsted piece.
86. Mrs. G. Mohrent, two bedspreads and one baby shawl.
99. Mrs. C. F. Brown, two worsted toilet sets.
113. F. Entz, impression of perforated pattern, General Grant.
133. Miss Mary A. Hale, silk work hag.
148. C. Goldberg, ladies' hat flowers.
157. Clifford Schmidt, (master,) worsted pin-cushion, by child of five years.
160. Miss A. C. Hartman, embroidered picture of Lincoln.
172. Mrs. S. A. Kelsey, one piece velvet patchwork.
173. Miss S. M. Kelsey, patchwork quilt.
174. Golden City Straw Works, California made straw goods.
178. Ladies' Co-operative Union, children's underclothing.
181. Mrs. E. Winship, millinery goods.
202. H. Friedlander & Co., ladies' underclothing.
217. Mrs. Kealhaupt, needle-work waist.
222. Mrs. M. R. Ball, gents' dressing-gown, and quilt.
224. Mrs. H. E. Bert, one quilt.
229. Mrs. J. J. Le Mary, crochet tidies, etc.
236. Miss J. Columbat, embroidered mat and seed hag.
239. Mrs. E. Rasscttc, silk quilt.
241. Miss S. Smith, embroidered pillow.
243. Miss E. Tracy, tatting collar.
244. Miss C. A. Tabor, carriage robe and tidy.
245. Miss A. C. Tabor, tidy and piano cover in crochet.
246. Pacific Straw Works, California made straw goods and machine.
259. Miss A. Murphy, patchwork quilt.
274. Mrs. S. C. Shacker, worsted work.
218. Mrs. S. C. Ewing, diagram for cutting dresses.
278. Mrs. D. A. Inwoods, diagram for cutting dresses.
292. Mrs. C. C. Jones, two worked pin-cushions.
294. Mrs. Latond, basket artificial flowers.
18. Mrs. A. W. Scott, frame preserved flowers.
40. John F. Snow, re-cleaned gloves and feathers, etc.
44. Miss F. McClure, Redwood City, phantom wreath.
164. Mrs. G. S. Harris, four frames flowers in feathers and seed.
175 R Pasquale, embroidered slipper pattern.
188. Mrs. F. Gabriel, embroidered work in fish scales.
215. Mrs. Geo. Atkinson, two leather picture frames.
216. Mrs. A. S. Knapp, one white spread and two table covers, made by hand, sixty years old.
303. Miss F. Breece, la ting parasol cover.
310. E. Blochman, millinery goods.
311. Mrs. Ackley, worsted rug.
313. Mrs. L. Bernard, worsted boot-jack.
320. E. E. Caswell, millinery goods.
323. Eliza Higgins, two worsted work ottomans.
325. Mrs. Ewing, silk quilt.
341. Miss A. J. Morton, worsted flowers.
342. Mrs. E. Campbell, embroidery.
357. Mrs. J. R. Paullin, rug made by hand.
358. Mrs. J. R. Paullin, worsted flowers.
362. W. Englumber, California made cords and tassels.
364. Mrs. W. C. Donnelly, crochet counterpane.
365. Miss F. Rothman, worsted picture, "Jacob's Despair."
366. S. A. Bonney, worsted picture, "Fishing Boat."
378. Claus & Co., artificial flower baskets.
378. Mrs. De La Barr, bed comforter, quilt, etc.
385. R. Pasquale, fancy goods.
387. Miss M. E. Gerlach, worsted sofa pillow.
388. Miss E. L. Churchil l, worsted piece.
389. Miss F. R. Jacks, needlework c llar.
18. Mrs. W. C. Wilson, needle work.
29. Mrs. M. A. Butler, millinery.
88. Mrs. J. C. Morrison, jr., vase magnolia blossoms.
93. Madam Julia Winberg, worste l work.
117. Miss E. Girod, silk quilt, three wreaths.
125. Julius Stralmann, Sacramento, seventeen frames and pieces of raised embroidery
127. Meyer, Jonasson & Co., cloaks, shawls, etc.
210. Mrs. Watson, knitted tidy and stockings.
227. Mrs. E. Crocker, baby skirt.
238. P. White, piano cover.
244. Mrs. J. Sweet, bed quilt.
243. J. H. Baird, worsted picture
250 Mrs. Young, tidy for table, etc
268. Miss Betti, needle work and embroidery.
269. Miss A. D Newitz, worsted wreath.
282. Mrs. Captain J. A. Johnson, embroidered afghan.
287. Mrs. W. H. Knight, corn bouquet.
283. Mrs. De Costa, quilt.
277. Miss E. McKee, two pieces embroidery.
301. Mrs. Barringer, Mrs. Curtis' improved method of cutting dr sses.
308. Mary P. Colin, worsted lamp mat.
314. A. P. Mugenlle, needle work.
318. Mrs. Geo. Ellis, sea moss.
326. Mrs. Van Dorsen, needlework rugs.
331. Mary Haviland, pencil sketch and wreath.
334. Charlotte Raw, needle work.
349. Mrs. Louis Fych, needle work picture.
352. Mrs. Wm Parker, silk embroidery.
353. Madame V. Cohen, needle work.
354. Nellie Kutl, crochet bedspread.
358. Mrs. Chas. A. Tabor, dolls, cradle and patchwork quilt.
362. C. M. Fellss, embroidered handkerchief.
371. Jacobs, Newman & Co., California made hoop skirts.
16. Mary Wirth, vase worsted flowers.
17. Mrs. W. H. Russell, quilt.
29. Miss F. E. Gray, afghan.
32. Currier & Winter, seaweed
33. Mrs. J. F. Clement, three tatting collars.
34. Mrs S. A. Higgins, seaweed.
39. Mrs W. A. France, quilt.
10. Mrs. E. T. Newton, one carpet and rug, made by hand.
41. Miss Mary Bowers, one worsted rug.
54. Mrs. E. Van Doeyne, case wooken work.
61. Miss A. Stewart, worsted afghan.
142. Miss P. Rothfelder, worsted afghan.
192. Alex. Mackay, six pieces California made carpet.
249. Mrs. T. King, knit bedspread.

No premiums to be awarded on the following:

Grover & Baker, sewing machines a al work.
Florence Sewing Machine Co., machines and work.
Singer Sewing Machine Co., machines and work.
Fuller & Hanscom sewing machines.
Bartram & Fanton, sewing machines.
H. A. Deming, Howe sewing machines and work.

Class 27.

Native, Foreign and other Distilled and Malt Liquors: Bitters, Syrups, Cordials, Essences, Punches, and Mixed Liquors. Judges: C. A. McNulty, Ralph Emerson, Judge Hoffman, J. Mora Moss, Henry Kenitzer, Dr. Carl Precht, A. J. Bryant.

15. F & P. J. Cassin, California wine and brandy bitters.
26. C. F. Leiding, California Sonoma wine.
28. L. Tichner, California white wine.
60. Squarza's punch, A. Bona, California made punch.
97. J. R. Snyder, California made wine.
102. T. Pettinelli, California made wine.
103. G. Caterelli, California made iced punch.
128. Kohler & Frohling, California made wine and brandy.
137. Wertheimer & Waterman, California made bitters.
139. L. Gross & Co., California made bitters.
149. I. Landsberger, California made champagne.
151. Anaheim Wine Growing Association, California wine bitters.
213. M. Keller, California wine bitters.
223. J. Sajous, California real half-and-half.
288. J. McCaffray, demijohn port wine from Santa Barbara.
302. Bucna Vista Vinicultural Society, California wine and brandy.
104. S. Marks, California ale and porter
162. L. Garrand, Santa Clara, Norman's bitters, California made.
327. Whiting & Berry, domestic and foreign wines.
369. Dr. J. H. Wood, huck wine.
21. W. R. Doty, Sonoma white wine.
329. Bennett & Co., ale and porter, in barrels and bottles.

Class 28.

Flowers, Plants, Agricultural Products, Fruits and Vegetables, Butter and Cheese, and Agricultural Implements. Judges: J. H. Gillmore, S. S. Gray, H. K. Cummings, C. J. Fillsbury, S. S. Graves.

207. D. L. Perkins, Oakland, 146 varieties of seeds, in bottles, 20 varieties of apples, 16 varieties of pears, 8 varieties of plums, photograph of California fruits and vegetables.
210. W. Holdredge, Blodget's improved road scraper.
257. J. Dodge, patent garden hoes.
301. J. C. Polhemus, Egyptian wheat.
281. T. Bartelyat, Tulis, from Redwood City, and book on grape culture. The book is in the office of the Board of Managers, in the desk.
36. J. O'Hara, shrubs, plants and flowers.
81. J. V. Sims, fruits from Sacramento River
105. Holland's orchard, Sacramento, fruits from Sacramento River.
106. Woodward's Garden, collection of choice plants.
177. J. Hutchinson, dahlias, hollyhocks, etc.
339. R. Kershival, fruit from Sacramento River.
367. M. R. Miller, samples of foreign grapes.
393. A. H. Hale, lemons and plums.
18. Mrs. Bev. —Taylor, bean pod from South America.
23. California Sugar Manufacturing Co., sugar cane.
25. Thomas Vear, peaches.
35. Mrs. J. Lick, sunflower, corn stalk, castor beans, etc.
155. S. Tonnar, pruning saws and wax.

Class 29.

Natural and Manufactured Products, Flour, Wheat, Grain, Wheat (seed), Bread, Crackers, Maccaroni and Paste, Spices, Mustard, Coffee, Preserved Meats, Fish, Fruits, Preserves, Vegetables, Pickles and Vinegar, Sugar, Candy, Syrups. Judges: W. C. Bartlett, John Centre, Richard Rowland, C. L. Kellogg, M. F. Jones.

9. W. M. Boyd, California yeast powder.
61. H. Schammel, California vinegar.
69. B. F. Barton & Co., California saleratus, etc.
85. B. Ackerman, California extract coffee.
87. L. J. Cummings, California preserves.
100. John Knoll, California mustard.
152. C. Borchard, California candy.
171. Boston Cracker Bakery, California made crackers.
203. Marden & Myrick, California made spices.
227. T. Donnolly & Co., California made yeast powders, etc.
275. Crystal Salt Works, California made salt, San Jose.
284. Ravenna, Ghirardelli & Co., California made maccaroni.
299. H. J. Clayton, California made salad dressing.
321. Bosto n Cracker Company, California made crackers.
361. San Francisco and Pacific Sugar Refinery, California made sugar.
70. Union Pacific Salt Company, California made salt.
101. Bernard Coffee and Spice Mills, California made coffee, spices, etc.
154. Pioneer Flour Mill, California made meal, etc.
251. Brignardello, Machiavelli & Co, vermicelli, etc.
272. Geo. Haas & Co., California made candies.
295. Holladay & Brenham, California manufactured salt from Carmen Island.
37. B. F. Barton & Co., samples of Carmen Island salt.
391. T. W. McCollam & Co., codfish from Alaska.
— California Chickory Manufacturing Co., chickory.

Class 30.

Section 1. Cigars, Tobacco and Snuff. Judges: L. Crowell, Chas. Babb, H. Sutliff, — Casener, G. W. Inskeep.

107. R. C. Horn & Co., samples tobacco and cigars.
121. Julius Morris, samples cigars, etc.
128. Jos. Gruce, samples cigars, etc.
181. C. G. Emery & Co., samples tobacco.
237. Parker, Watson & Co., samples smoking and chewing tobacco.
368. Charles Kohlmann, California made meerschaum pipes, etc.
66. Son & Briggs, meerschaum pipes, etc.
129. Geo. J. Hobe, snuff and tobacco.

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Section 2. Hair Work and Wax Work. Judges: Mrs. W. H. Gladwin, Mrs. Frank Morrill, Mrs. A. Bam, Mrs. S. Harmon, Miss Anna E. DuBois.

224. Mrs H. E. Bert, hair flowers.
58. Miss J. E. Warren, wreath of hairwork.
263. Mrs. C. M. Chapman, hairwork.
344. Mrs. L. Schuck, hairwork.
379. Mrs. De la Bar, hair flowers.
186. Mrs. M. E. Dougherty, human hair, perfumery, etc.
57. Miss Alice Schmidt, vase wax flowers.
60. Mrs. J. W. Thomas, five vases wax flowers.
95. Mrs. M. E. Gerrish, two cases and one vase wax flowers.
140. Miss M. Blanchard, two cases and one vase wax flowers.
162. Mrs. J. B. Fisk, one case wax flowers.
166. Mrs. W. B. King, one case wax fruit.
308. Mrs. A. E. Crane, one case wax flowers.
319. Mrs. J. B. Harmstead, six cases wax flowers.
328. Mrs. J. C. Rogers, case wax flowers.
331. Miss C. Taylor, case wax flowers.
332. Miss H. F. Badarous, case wax flowers.
377. Mrs. S. J. Hegeman, case wax flowers.
306. Mrs. C. Brown, Placerville, one case wax work.
18. Mrs. W. C. Wilson, case wax flowers.
344. Mrs. Benjamin Haynes, cases artificial fruit.

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Section 3. Shell Work, Aquarium and Taxidermy. Judges: R. B. Woodward, Chas. Stellman, A. Warner.

298. Mrs. L. Bigler, seaweed and shell work.
3 6. Mrs. Marianno, shell, frame and seaweed.
269. C. Kastel, galvanized specimens of birds, fruit, etc.
13. M. S. Peney, walrus' tusks and whales' teeth.
27. E. F. Lorquin stuffed birds, aquarium, etc.
166. W. E Loomis, curiosities and shells from Sandwich Islands.
243. Mrs. W. P. Day, three cases shells.
291. Geo. Bloomer, five cases California shells.

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Section 4. Miscellaneous. Judges: C. Steiger, J. H. McMonagle, C. W. M. Smith.

38. John Whitman, two pairs elk horns.
88. H Engel, jaw of shark.
91. J. C. Bender, sofa, showing the patent process of renovating colors.
106. Meyer & Co., samples of blankets, showing patent process of re-cleaning.
230. J. T. Jennings, one snuff box, made from piece of wood from bridge built in England by the Saxons in 1176, made by the exhibitor 48 years ago.
138. J. C. R. Fairweather, model of living machine.
338. J. W. Angell, perfumery and fancy articles.
17. E. H. Willis, soda fountains.
48. E. Hawthorne, patent fire-escape.
141. Gilmore & Van Norden, advertising frames.
263. Swyney & Smith, "Fountain fleet," invented at Fair.
264. Dr. J. P. Vandenburgh, jars tape-worms.
271. D. M. Hawley & Co., advertising frames.
286. Mrs. Butler, Continental paper money and Indian grain mortar.
295. Dr. L. J. Perrin, skull of sea-horse.
313. H. Olsen, combination swimming apparatus and lifepreserver.
318. J. Stapleton, autograph letter from Gen. Washington.
355. L. P. McCarty, castle made from cards.
36. Gov. Haight, for the State of California, silver medal awarded to the State of California at Paris Exposition of 1867, for cereals.
356. John S. Hittell, three books, "Resources of California."
393. Pacific Publishing Company. Wilson's prepared solder.
393. A. H. Hale, Harmon's patent excelsior cigarette rollers, and patent cigarette wrappers.

Class 31.

All California Inventions, invented since September, 1865. Judges: W. T. Garratt, R. Watt, James Spiers, J. Rinpot, M. Greenwood.

The articles in this Class are entered in the various classes preceding. The premium to be awarded is a Gold Medal.

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LIST OF ARTICLES ENTERED BY COL. WARREN, From the Cal fornia Farmer Office.

Two cabinet cases, containing a large collection of the early productions of California, viz: First box raisins exhibited at State Fair, 1853; samples of rosin, sugar, quicksilver, cocoons, silk floss and woven silk—first samples of about 100 varieties, all rare and valuable; a collection of gold and silver ores, copper ores and minerals, in great number; large crystals, agates and marbles, chunabar, etc.; sample piece of silk velvet, the first that conveyed Lafayette to this country; puffy hlock used by Ben. Franklin in 1732, in Philadelphia; collection of rare things from all parts of the Pacific Coast, forming a cabinet of about 500 pieces; samples of lava, sulphur, and rare volcanic specimens; also Indian relics, European gems, rare woods, etc.; a collection of corals and shells, rare and curious.

One case rare fruit and flower seeds—many from Java, Hongkong, India, Sandwich Islands, Cape of Good Hope, France, England, etc.

Five models.—The American gate, the best yet invented; the ditcher, a valuable invention for diking; the new apple-pealer; a corn cultivator, and a sugar evaporator.

Tibbs' new patent churn; patent hay fork; cheese cord cutter; True's potatoe digger, and Allen's new weeding hoe.

Collection of animals almost unequaled.—The duck-billed platibus, a curiosity; monster gopher, turtles, horned toads, etc.

Blocks of wood from the Mammoth Tree Forest; wood and bark from the "Father" and the "Mother of the Forest."

Two cases birds—one from South America, one of California birds.

A pyramid of polished stones from the beach at Peseadero.

Two statues—one of the Goddess "Flora," one of Washington.

The original bag of flour, in white satin sack, gold letters, as shown at the first Agricultural Fair in San Francisco, 1853, fifteen years ago. Made by John M. Horner, at the Union Mills, Union City.

Block of marble from Suisun; three do from Columbia.

Oil paintings.—Gen. Sutter, painted by S. W. Shaw, in 1852; "Lang Syne," painted at Boston, by H. C. Pratt, in 1827; "President Lincoln and his Generals at the Last Council of War at the Battle Front," painted by Hill; "Check-Mate," by Brooks; two Newfoundland dogs—English painting; two "Ideals"; "May Queen," etc.

"Washington and Lady Washington," superb chromolithographs; Correglo's "Magdalen," and fruit piece, masterpiece from the Art Gallery of Prang & Co., Boston; life-size pictures, being photographs of the "Labor of Love," a copy of prize picture at Art Exhibition, London, in 1863; life-size "Flora and Pomona," copy of exhibit at Mechanics' Fair in 1865; model picture, retouched, of "Flora, Pomona and Ceres;" photograph of the building where the First Agricultural Fair was held in Sacramento, California, 1852; four specimens "California Farmer," printed on white satin; engraved pictures, large size, "World's Fair in London" and "World's Fair in New York;" "The Big Tree of Calaveras;" fruit piece of the first fruits in California, 1853, copy, by Dr. Thomas Logan, Sacramento; framed picture, containing two grass bouquets made at Nonantum Hill, Brighton and Newton, Mass, in 1816—now in perfect order: Mechanics' Pavilion, 1865, and six other photograph pictures; two oil paintings, grapes, perfect; one fruit piece; four Prang chromo-lithographs, animals, very perfect; four large drawings, fruits and vegetables.

Three large bound volumes, "Ellwoorth's Albumo Flowers and Vegetables."

Volume "Victoria Regina," the "Wonder Flower of the World."

Thirty pots greenhouse plants, principally new and choice seedlings; collection of choice fruits raised in San Francisco.

Coat of arms, being garden and farm tools arranged as emblems in the collection, and surrounded by the "Stars and Stripes."

For Frosting Windows, make a strong solution of epsom salts in lager beer, and apply with a sponge.

Copper Reduction Works at Virginia City

The *Enterprise* describes some newly erected experimental works, 40 by 25 in dimensions, for the reduction of Nevada copper ores by the wet way, situated on F street, and under the superintendency of John Ramdohr, the several features of which are: A quantity of ore digesting in dilute sulphuric acid in the first tank; the solution running from the filtering tank into the precipitating tank; precipitated with the powder of metallic iron; the precipitated copper in process of melting in a large crucible, to be molded into a bar, and a quantity of both the blue and green vitriol produced by crystillization. The ore is first dry-crushed to a fine powder, when it is placed in a large copper tank and subjected to the action of dilute sulphuric acid, heat being applied to the bottom of the tank (which stands upon a furnace), to hasten the process of dissolving the copper contained in the ore. When dissolved the solution is drawn off into a large filtering tank, and from this is conducted into a precipitating tank. In case it is intended to manufacture blnestone from the solution, it is conducted to the evaporating pans, and thence, after being sufficiently reduced, is placed in pans lined with lead, for crystillization, when it is ready for sale to millmen and others who have use for the article. For the production of metallic copper the process is precisely the same as for the making of blnestone, up to the point of running the solution from the filter. To obtain metallic copper the solution is conducted from the filter to a large precipitating tank, where it is precipitated by the use of metallic iron in a state of fine division, and at once becomes metallic copper in fine grains. The metallic iron used in precipitating the copper contained in the solution is obtained in the following manner from the ore itself, the ore (from Walker River) containing but 21 per cent. of copper and a considerable amount of iron. The crushed ore, just as it comes from the batteries, is mixed with a quantity of pulverized charcoal, placed in iron tubes or cylinders, and kept for a length of time at a certain heat, by which time the iron is annealed and becomes metallic, and then is ready to be used in the precipitation of the copper obtained in solution by the first process. This iron powder acts almost instantaneously, and all the copper in a tank of the solution, no matter how large the tank, may be precipitated in less than an hour. After the copper has been precipitated there remains in the solution sulphate of iron (green vitriol), and this is evaporated and crystallized in the usual way, when it is used for the manufacture of sulphuric acid, to be again employed in the process of dissolving the ore in the first operation. After the distillation of the sulphate of iron for the production of sulphuric acid, there remains behind in the retorts used, a substance called colcothar—a red oxide of iron, sometimes used as a pigment and for polishing glass. Thus it will be seen that the ore is made to furnish the materials by which it is worked; the only loss is about ten per cent. of sulphuric acid. To work copper ore by the new process will cost from $8 to $15 per ton, according to the price of fuel, facilities for obtaining ore, etc.

Street Watering.—Mr. J. W. Cooper has patented an improved system of watering the streets, which is being tried in the parish of Marylehone, Eng., and elsewhere, and promises to be successful. He introduces in the ordinary carts, when charged with water, a mixture, in suitable proportions, of fused chloride of calcium and chloride of sodium (common table salt). These salts, as is well known, are highly deliquescent, especially the chloride of calcium. When such a solution is applied to the roads, the retention of moisture by the chlorides serves to keep them in a damp condition for a much longer period than when ordinary water is used. By the present system of *deluging*, three applications daily are scarcely sufficient in warm dry weather to prevent the dust from blowing, whereas *one* application of Mr. Cooper's composition at intervals of two or three days will, it is said, effectually accomplish this object, and at a much less expense. The dust in the large rooms of warehouses and similar buildings, might doubtless be effectively controlled by adding a little of these salts to the water used.—*Gas Light Journal.*

Five Japanese students are at the Academy of Munson, Mass.

New Patents Issued to Pacific Coast Inventors.

Specially reported by the U. S. Patent Office, Washington, D. C., to Dewey & Co., American and Foreign Patent Solicitors, and Publishers of the Mining and Scientific Press.

Issued for the Weeks Ending Aug. 18th and 25th, 1868.

81,168.—Improvement in Direct-Acting Engines.—Wm. D. Hooker, San Francisco, Cal.:

1. I claim the auxiliary ports m, m′, together with the main ports i, i′, in combination with the main valve f, piston c, and auxiliary valve q, of a direct-acting engine, constructed substantially as described.

2. The arrangement of the auxiliary valve q, ports p, p′, and n, n′, in combination with the main valve f, and piston c, of a direct-acting engine constructed substantially as described.

3. In combination with the main valve f, supply ports i, i′, exhaust ports j, j′, auxiliary valve g, and ports p, p′, I claim the small ports l, l′, and k, k′, substantially as herein described.

This patent has been granted to Mr. W. D. Hooker, already well and favorably known on this coast as an inventor, and it consists of a device in which by means of two valves, one main and one auxiliary, the steam is caused to act on each end of the piston in the cylinder alternately without the aid of eccentrics, cams or tappets, while by a system of ports opening at different parts of the cylinder and valve chambers, the valves and piston are cushioned at each end of their stroke in such a manner as to allow a very high rate of speed without the danger of concussion. The auxiliary valve opens and closes the ports leading to the ends of the main valve chamber alternately by the action of the steam supplied and released at each stroke of the piston. The advantages of this engine are, first, its durability, simplicity, and cheapness, there being but three moving parts; two valves and the piston; and secondly, the certainty with which it starts from any part of the stroke, and the variable speed at which it may be run, from the lowest to the highest. It is especially adaptable to steam pumps and fire engines, where a high rate of speed is required, while all parts are readily inspected by removing a cover.

81,414.—Improved Car Brake.—S. W. Y. Schimonsky, Cheyenne, Dacotah Territory:

I claim the brake shoes G, rigidly attached to the frame D, sliding through the wheels E, upon the guides F, and attached to the lever I, all operating as described, whereby the shoes G, are alternately wedged upon each side of the wheel between the same and the guide F, as the lever is operated in either direction, as herein shown and described.

REISSUES.

3,097.—Improvement in Cultivator Teeth. Don Carlos Matteson and Truman P. Williamson, Stockton, Cal.:

1. We claim the double-pointed adjustable bit A, attached to the beveled foot of the curved standard C, substantially as and for the purpose specified.

2. The oblong blade or share D, in combination with the bit A, substantially as described, and for the purpose specified.

Masters' Hay Press.—During the last day of the San Joaquin County Fair, a new style of hay press, the invention of E. J. Masters, of Shaw's Flat, Tuolumne County, was brought forward for exhibition. It is called "Portable and Stationary Hay Press." The advantage over other presses which Mr. Masters claims for his invention, is that it can be drawn by a span of horses along a winrow of hay, or from cock to cock in a field, and press the bales while it is moving from place to place. The press is worked by horse-power. The hind wheels are fast to a revolving axle, which works the press. It is of sufficient size to make bales of 225 pounds in weight. The inventor has applied for a patent.

Australian Silver Smelting Products. The Talisker Silver Mining Company, South Australia, have sold in London, during the past six months, five shipments of silver lead, weighing 103 tons, and containing 7,475 ounces of silver. There are now in transit to the company's agents, in London, five other shipments, weighing 122 tons, and containing 9,028 ounces of silver, making a total of 16,503 ounces of silver and 225 tons of lead shipped during the past six months.

[From the Mechanics' Fair Daily Press.]

Retrospective.

What have we seen in the Fair of 1868? Financially and managerially, a success; industrially, the myriad interesting details of all the arts and trades, and the gratifying advanced status of mechanics and manufactures, of economy and the comforts of home life, on the Pacific coast. Socially and individually, have we not all learnt more concerning each other, and seen more of unaffected human nature as it manifests itself without hiding its working machinery—between childhood and old age, coupled or seeking to be coupled, quiescent, or restless—in the exhibition during our frequent visits, than we have at all the theatres and parties throughout the year? We have not crucified ourselves with any hard "study," and yet it has been a university to all of us, because it has enabled us to build up in our minds what we were striving, perhaps unconsciously, to assimilate.

What are the results? None can tell but the great Designer, who plans communities, and maps out destinies of a thousand years, as the artist lays upon canvas his matured conceptions.

This is the sixth exhibition of the Mechanics' Institute—and it is not the least, nor the greatest, of either the past or the future. Though it has been, generally, the most satisfactory one thus far held, it is not half as good as it might have been; nor half of what, let us hope, the next one will be, in unanimity of impulse on the part of our industrial elements to present to the community the best devised and most suggestive exhibitions possible, representing everything and everybody of any account in his own special field—a result to be attained more by judicious management on the part of the Institute than by any other cause.

One may read the signs of the times in the Fair, and at the same time prove the conclusions arrived at by comparing the present with the previous Exhibitions. Mining was the great feature at the last Fair; the woolen manufactures lead in this. Without speculating as to the final and permanent position of wine-making, and silk-growing, or of other pursuits which still suggests doubts to those who propose engaging in them, we may safely conclude that the little pursuits and specialties which tend to advance home comforts and the economy of living on this coast, will continue to spring up, and will all flourish, like our own eastern seeds in California soil. The old-fashioned home-made carpet weaving business,—to cite an example,—is not only represented amongst the new industries of the Fair, but it is making profits for the introducer. Our former extravagant prices must tend inevitably towards striking an average with the low prices of the products of labor in China; and there appears to be no human agency powerful enough to prevent it.

Mechanics' Institutes originated in England and Scotland about A.D. 1800, when a course of lectures was delivered by Dr. Birkbeck, at Glasgow, the object of which was to furnish instruction to the toiling world in popular and applied science. Now there is not a town of 10,000 inhabitants in the British realm, but rejoices in its Mechanics' Institute, where short courses of lectures, illustrated by experiments, are given, classes taught, and circulating libraries afforded to all at a moderate price. Our own Mechanics' Institute was organized in 1855, in a small way; it prospered slowly but surely till 1863. Energetic citizens then came to the rescue, and in 1864, 1865, and 1868, the exhibitions were repeated, uniformly with success, and the data and significant features were historically perpetuated by the publication, throughout the continuance of those fairs, of the Mechanics' Fair Daily Press—an unpretending institution, which nevertheless presents itself confidently to the reader with a consciousness of being itself one of the signs of the times.

The Great Railroad Building.

Holmes has written a verse which embodies pithily the present chief industrial event of the Pacific:

Here sun-browned labor swings his cyclop arms,
Long are the furrows he must trace between
The ocean's azure and the prairies green;
Full many a blank his destined realm displays,
Yet see the promise of his riper days:
Far through yon depths the panting engine moves,
His chariots ringing in their steel-shod grooves;
And Tahoe's naiad flings her diamond wave,
O'er the wild sea-nymph in her distant cave.

We have merely written "Tahoe" where the poet said "Erie;" that is all. What he says about the sea-nymphs, might be deemed inapplicable to our rock-ribbed shores,—though they are cavernous and mossy, and romantic enough on a calm afternoon, and very weird in a storm,—for no Californian who has learned to handle the frying pan can be very easily humbugged into any faith of mithological naiads and nymphs ever having been seen in this longitude. But those lines are as true as the rest; the poet merely referred (prophetically) to the sands of Santa Cruz, and then bethought himself of the pretty sights which are witnessed sometimes by the juniper trees of Bonudary Point overlooking the Warm Springs in surrounding cold waters, which have been found by the nymphs aforesaid, at the northern end of the Tahoe Lake.

Manufacturing Machinery.—The progress of manufacturing in a new country can be told better, perhaps, by the quality and quantity of the manufacturing machinery which is turned out, than in any other manner. Taking the shingle machine at the Fair (made at the machine works of Geo. T. Pracy, on Mission street), for an example: it is a beautifully constructed machine, solid and substantial, evidencing that in the country where its several parts were manufactured, the skill and perfection of both wood and iron handicraft have made themselves a home. There are over 20 of these machines, invented by Mr. Huntington, now at work in different parts of the State, viz.:

With Hanson & Co., Redwood City, 2; Rice & Halliburton, Woodside, 1; S. P. Pharis, Woodside, 1; A. Saunders, Woodside, 1; Wm. Page, Mayfield, 1; McPherson & Wetherbee, San Francisco, 1; Pope & Talbot, San Francisco, 1; Harrington & Co., Pescadero, 2; Burch & Co., Pescadero, 2 (both running with an eight-inch cylinder engine); A. Anderson, Pescadero (run by water power) 1; J. Tufly, Pescadero, 1; Rutter & Co., Pescadero, 1; R. Walton, Emigrant Gap, 1, and several others not noted.

A visit to Mr. Pracy's establishment will disclose great activity besides, in the manufacture of other kinds of mill machinery in general, on orders from out of the way places which, having hitherto been possessed of but little more than a "local habitation" in geography, will not be long thus in procuring themselves a name.

In an advertisement in another column of to-day's issue, we see that Mr. Pracy has several specialties at his shop. We have known Mr. Pracy for years, and noted his industry and close attention to the business in which he is steadily progressing, to his own credit and the advantage of his customers, a large portion of whose work is of the most difficult character to execute in a satisfactory manner.

Perforated Patterns.—A convenient means of marking out lines for embroidery is made use of by F. Entz, in the gallery. A peculiar transparent paper is used for tracing any desirable design; it is then perforated, and a brush with a light blue powder is applied over it in such a manner as to mark the goods. A good operator can readily produce the same on the sewing machine, in a few days' labor. It is a new idea for needle-workers, giving to the ladies an opportunity not only to learn to sew neatly, but to cultivate a taste for drawing at the same time.

W. A. White's patent sad iron holder protects the hand from heat while ironing. It is just the article that women have wished for thousands of times.

A new cable has been laid between Victoria, V. I., and the main land.

To Inventors

ON THE

Pacific Coast.

Messrs. DEWEY & CO.

Take occasion to call your attention to the following rules, regulations and suggestions relative to the obtaining of LETTERS PATENT of the United States:

Letters Patent.

A patent is an open letter, embodying all the language of an inventor or his agent, contained in the specification, without alteration, and is granted to citizens of the United States, or those who have declared their intentions of becoming such, and is signed by the Secretary of the Interior and the Commissioner of Patents, with the seal of the Patent Office affixed. Its jurisdiction is for the whole United States, for the term of seventeen years.

A patent right is personal property, and is assignable, but cannot be seized and sold on execution.

What Claims can be Patented?

A knowledge of Ancient and Modern Mechanics and familiarity with American and Foreign patent issues and rejections, enables us to determine in a measure in all cases what can be patented, and how much can be claimed as new and novel, and be covered by Letters Patent. This is one of the most difficult questions encountered by both old and new inventors—one in which an experienced counsel is of great service—and yet it can never be positively determined except by presenting a formal application for a patent to the Government, embracing a petition, specification, model, duplicate drawings and payment of the first government fees.

Patent Rejections.

First. Refusals are always made by the Patent Office if there is any informality in the specification, or if it does not contain the entire subject matter of the invention, and is not properly arranged and stamped. A slight omission often proves fatal.

Second. If the drawings are defective, and are not executed in an artistic manner in India ink, and on sheets of the required size, they are subject to rejection.

Third. Applications are always rejected where the claims conflict with others already patented.

If the rejection should be an unjust one—which sometimes happens—it can generally be reversed, and the patent obtained by contesting the case.

For the prosecution of such cases, obtaining references, making arguments, and personally attending to explain the case (through our agent in Washington), *we charge no second fee*, as is the case with some agencies, but attend to the business till finally allowed or rejected, without extra charge beyond the Government fee.

Inventors who have rejected cases, prepared either by themselves, or for them by other agents, and desire to ascertain their prospects of success by further efforts, are invited to avail themselves of our unsurpassed facilities in securing favorable results. We have been successful in securing Letters Patent in many such cases. Our terms are very moderate.

Re-Issues.

When, through "inadvertence, accident, or mistake," an *insufficient* or *defective* patent has been issued, the defects in the Specification and Claims can be cured by a *re-issue*. In order to obtain this, the inventor, or the holders of the patent, must surrender the patent, and file an amended specification and drawings, and a statement specifying the ground for asking for a re-issue. Re-issues are generally applied for after it has been found that the patent could not withstand litigation. It is, therefore, especially desirable that the new Specification and Claims should be prepared with great care and skill. Terms liberal in these cases.

Expense of Applying for Patent.

The Government fee, on filing an application for a patent in the United States, is fifteen dollars; and if the patent is allowed, twenty dollars additional is required. If rejected, the first fee of fifteen dollars is all that is demanded. English, French, Austrian, Prussian, Spanish, and inventors of every nationality, may now obtain patents in the United States upon the same terms as our citizens. The only discrimination made is against subjects of governments that discriminate against the inhabitants of the United States.

To the foregoing official fees must be added fees for preparing the various documents and expense of drawings. Our charge for preparing a case, presenting it to the Government, and attending to all business connected with it, varies from $20 to $40.

Following is the list of Government fees, payable in currency:

On every caveat	$10
On every application for a patent, for seventeen years	15
On every application for a design, for 3 y'rs and 6 mos	10
On every application for a design, for seven years	15
On every application for a design, for fourteen years	30
On issuing each original patent	20
On filing a disclaimer	10
On every application for a re-issue	30
On every additional patent granted on a re-issue	30
On every application for an extension	50
On the grant of every extension	50
On appeal to the Examiners-in-Chief	10
On appeal to the Commissioner from Examiners-in-chief	20
On every appeal to the Judges of Circuit Court, D. C.	25

DEWEY & CO.,

Patent Solicitors, Mining and Scientific Press Office,

414 *Clay Street, below Sansome, San Francisco.*

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board.

San Francisco, September 12, 1868.

City Stocks.

During the past week miscellaneous stocks met with slight inquiry in the open market. Sales of Spring Valley Water were made at $66 50, and San Francisco Gas at $77 75. The Front Street, Mission and Ocean Railroad Company have declared a dividend of 1¼ per cent. per month on preferred stock, for the past three months, payable on and after the 20th instant. The North Beach and Mission Railroad Company will disburse a dividend of ¼ per cent. on the 15th inst., and the Omnibus Railroad Company the same amount on the same day. The City Railroad Company have levied an assessment of $2 per share, delinquent on and after October 10.

The usual monthly dividend of the Bank of California—1 per cent. on its capital stock—is payable on the 15th inst.

Mining Share Market.

The mining share market shows a marked depression since our last similar reference, those stocks mostly dealt in exhibiting the greatest decline. Very material fluctuations have taken place from day to day, and upon the whole the transactions as compared with the previous week have not been near so large. In a falling market the majority of small speculative dealers decline to purchase, but so soon as stocks have almost reached their limit of advance, they make the freest purchases and in many cases suffer quite severely by a rapid decline, in many instances superinduced by the action of heavy holders. However, at present the rather unfavorable news from the principal mines adds greatly to the depressed condition of the market.

Crown Point—has been less active as compared with last week, selling within a range of $70@64, then at $69, and at the close realizing $66 50. The mail reports to the 8th inst. state that the stopes between the 700 and 800 levels are gradually giving out, the upper floors first showing a diminution. The south fork of the east drift, on the 900 level, is in to the wall, a distance of 240 feet from the shaft, and the Superintendent is disappointed in not finding ore before reaching the wall. In drifting north about eight feet they found no favorable change in the ground, while the winze of the north fork of the east drift is down about forty-two feet, and from the top has carried its full size in superior ore. The face of the north fork, east drift, now in a distance of 220 feet, is almost entirely in quartz. The south drift on the 800 level is in over 230 feet and still shows good streaks of ore in the face. The bullion returns in August amounted to $103,293 against $145,923 in July, and $116,000 in June. A dividend of $5 per share is payable to-day. By later mail advices we learn that the shaft is 69 feet in depth below the 900 level, and in hard rock. By telegraph of the 11th, the north drift was in 225 feet, with face in quartz and looking encouraging.

Kentuck—declined from $420 to $400, improving to $411, and closing at $372 50 ex dividend. The total bullion receipts in August were $164,540, against $138,860 in July, and $120,766 in June. The expenses for the month just closed were about $88,000. A dividend of $30 is payable since the 10th inst.

Savage—has been quite largely dealt in at a decline from previous rates, selling at $109 50 @86 14, and closing yesterday at $86 50. During the week ending Sept. 5th 1,026 tons of ore were extracted showing an average assay value of $33 95 per ton; previous week, 1,131 tons were extracted, valued at $36 34 per ton. They are finding considerably more ore on the third station, north mine, than they expected, while the breasts in the south mine, on the fourth level, are not looking as well as heretofore; however, the difference is not sufficient to account for the falling off in the general average value of the ore. The east breasts are poorer, while the west are said to show a marked improvement. On the fifth station, south mine, the north winze is nearly sixty feet in depth on the incline, and a cross-cut is being run east, but so far no new developments have been made. The south winze, in following the ore, gets so flat, at a depth of thirty-five feet, that no headway can be made on account of water, and for this reason a cross-cut was started eastward from the bottom, and has been carried twelve feet through good ore. No change on the sixth level, the drifts, north and south, being over seventy feet from the forks of the tunnels. The bullion returns for August aggregate $187,141 against $279,788 in July, and $384,675 in June. A dividend of $5 per share is payable since the 11th inst.

Empire—remains quiet. Sales have been made at $115, seller 30. The bullion receipts at the office in this city for the month of August aggregated $20,645 72 against $20,464 45 in July, and $20,659 in June.

Chollar-Potosi—has been somewhat more active, declining from $175 to $153, and closing at $155. For the week ending Sept. 4th they extracted 1,004 tons of ore from the New Blue Wing stope, against 1,205 tons the previous week. The various faces in the stope have not changed since the previous report. The 14th and 15th floors promise to keep up the present daily supply of 140 tons. Considerable progress has been made at the 1,000 and 1,100 stations, the northeast drift on the 1,100 level showing a mixture of porphyry, clay and quartz, while the southeast drift is in hard porphyry. Three mills are now employed in reducing ore for this company. The bullion returns for August foot up $97,993 20 against $86,029 37 in July, and $76,563 in June.

Overman—sold to a considerable extent, rising from $80 to $97, declining to $81, and closing at $89. The Vivian and Sacramento mills are now being supplied with ore taken from the 361 level, which averages about sixty-five tons daily. They have taken about fifteen tons of high grade ore from the 500 level. They are extending drift south on the 400 to meet the body of ore on the 300 level. From the 300 level, it is reported, they are taking some fine ore.

Amador (Cal.)—sold at $257 50@246. The receipts for August amounted to $44,250 against $47,500 in July, and $45,630 in June.

Yellow Jacket—advanced from $1,230 to $1,290, declined to $1,235 and closed at $1,270. The 700 level is yielding some very fine ore, and it is believed that the mine is looking better than for months past.

Imperial—has been more active, selling within a range of $111@107 50, and closing at $107. Hard rock is encountered in sinking the main shaft, the south end of which is now sixty feet in depth. They have raised eighty-five feet from the 900 level. The winze from the 700 level of the Alta mine is down sixty-six feet, the ore on this level showing no change. The west body on the 600 level is producing eighteen tons per day, and from the Alta mine they are extracting about 110 tons per day.

Gould & Curry—sold at $100@90, closing at $92 b. 10. During the week ending Sept. 6th, the Bonner shaft was carried to a further depth of 10½ feet. Still have the small seam of ore previously reported.

Hale & Norcross—declined from $77 to $50, and closed at $56 25. They are extracting ore from several localities on the lower level, but as yet the value of the same has not been ascertained.

Exhibition of Dentistry.—The showcases of Dr. E. O. Belle, in the rear Art Gallery, contains skulls of various animals, and exhibits a variety of teeth which are especially interesting to the lover of science. On top of the case we noticed a perfect representation of the upper part of the human mouth, made in wax, and copied from nature, which shows the most varied antagonism of teeth, and the different stages of decay which ordinarily takes place. Beside the case is one of Dr. Belle's patent instruments for the extraction of teeth without pain, which fully answers the purpose for which it was designed, as hundreds in the city can testify. The material used in the mouth during this operation is entirely tasteless, and there is no ether to be inhaled by the breath. The shock given to the system of delicate females and children, which often lasts for months, is avoided, while those of stronger constitutions find its use a great relief. Dr. Belle is a skillful dentist, and has full sets are models of chaste workmanship. His place of business is at 408 Pine street, near Montgomery.

Successful Working.—It is gratifying to learn that the ores of the Enterprise mine, at Meadow Lake, Nevada county, are now being treated very successfully by the Hagan furnace process, by the Pacific Ore Company. We shall give further particulars soon.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE.
Amador Co., dividend, $6 per share	Payable Aug. 20	
Bunker Hill, Amador co., May 19, $10	Oct. 6	Oct. 26*
Bullion, Aug. 19, $10	Payable immediately	
Belcher, Storey co., Nev	Special Meeting Oct. 1	
Bacon, Storey co., Nov., div.	Payable June 19	
Belcher, Storey co., Nev., July 13, $25	Aug. 13	Sept 14
Chimmenea, Mexico, Sept. 7, $5	Oct. 9	Oct. 26*
Cosala, Sinaloa, Mexico.	Annual Meeting Sept. 21	
Chalk Mt. R. G., Nevada co., Aug. 17, $1	Sept. 23	Oct. 12*
Crown Point, dividend, $7.50	Payable July 11	
Diamond, Del Norte co., Feb. 4, $2	Oct. 7	Oct. 26*
Daney, Lyon co, Nev., July 27, $2	Sept. 1	Sept. 20
Enterprise, Meadow Lake, Aug. 28, $1	Sept 30	Oct. 17
Empire M. & M., Nev., dividend $6	Payable May 15	
Folsom St. & F. Pt. R. R. Co., July 30, $5	Aug. 29	Sept. 11*
Gold Hill Q M & M—dividend, $7 50	Payable July 13	
Golden Rule, Tuolumne co, div. 50c ₱ sh	Payable Aug. 23*	
Hope Gravel, Nevada co , July 30, $1	Sept. 10	Oct. 5*
Hale & Norcross, Storey co., Nev., July 22, $10. Sale Sept 14		
I. X. L , Alpine co., Aug. 20, $1.50	Sept. 19	Oct. 7*
Imperial, Storey co., Nov., div.	Payable June 18	
Julia, Storey co., Aug. 24, $1.50	Sept. 28	Oct. 17
Kentuck, div., $30 per share	Payable Aug. 10	
Kearsarge, Inyo co., Aug. 4, $	Sept. 4	Sept. 21*
Lady Bryan, Storey co., July 25, $10	Sale Sept. 25	
Nevada County G. M. Co., Nevada co	Meeting Oct. 5*	
N. A. Wood Preserving Co., Sept. 3, 50c	Oct. 5	Oct. 21*
North Star, dividend, $5	Payable Aug. 10	
Oriental, Sierra co	Annual Meeting Sept. 21	
Pacific Unassessable, div.	Payable June 18	
Rattlesnake, Yuba co . Aug. 7, $2	Sept. 10	Sept. 28*
Rose Linda, Alpine co., July 25, $50	Sept. 1	Sept. 16
Silver Sprout, Inyo co	Special Meeting, Aug 31*	
Silver Sprout, Inyo co . Aug. 4, $30	Sept. 4	Sept. 21*
Santiago, Silver City, dividend	Payable Sept. 10	
Savage, Virginia, Nev, dividend, $15	Payable July 10	
Sand Spring salt, dividend $1	Payable June 5	
Telliuiah, Humboldt co., Nev	Annual Meeting Sept. 14	
Virginia & G. H. Water Co	Dividend, payable May 15	

* Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. Stock and Exchange Board.

Friday Evening, Sept. 11, 1868.

Miscellaneous Stocks.	Bid.	Asked.
United States Bonds, 5 20s	$ —	—
Legal Tender Notes	69¾	70¼
California State Bonds, 7s, 1857	95	65
San Francisco Bonds, 10s, 1851	102	103
San Francisco City Bonds, 6s, 1855	—	—
San Francisco School Bonds, 10s, 1860	par & int.	
San Francisco School Bonds, 10s, 1861	par & int	
San Francisco City and County Bonds, 6s, 1858	85	90
San Francisco City and Co. Sch'l B'ds, 7s, 1866	90	—
San Francisco City and Co. Bonds, 7s, 1862	88	90
San Francisco City and Co. Bonds, 7s, 1864	88	90
San Francisco City and Co Bonds, 7s, 1865	88	90
San Francisco City and Co. Judg. Bds. 7s, 1863	88	90
San Francisco City and Co. Judg. Bds, 7s, 1864	88	90
Sacramento City Bonds	23	25
Sacramento County Bonds, 6s	70	73
Marysville Bonds, 10s	75	85
Stockton City Sonds	70	80
Yuba County Sonds, 8s	76	78
Santa Clara County Bonds, 7s	75	77
Sutte County Sonds, 10s, 1860	70	75
San Mateo County Bonds, 7s	75	—
California Steam Navigation Co	63	70
Spring Valley Water Co	66	6¾
State Telegraph Co	25	29
Gas Companies.		
San Francisco Gas Co	77	79½
Sacramento Gas Co	—	75
Railroads.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	80	—
Central Railroad	55	58
North Beach and Mission Railroad	—	75
Front Street, Mission and Ocean Railroad	11	12
Banking Institutions.		
California, Loan and Savings Society	—	—
Pacific Bank	97½	100
The Bank of California	157	158
Insurance Companies.		
Firemans' Fund Insurance Co	85	86
Pacific Insurance Co	118	—
San Francisco Insurance Co	—	105
Merchants' Mutual Marine Insurance Co	470	483
California Insurance Co	1300	1400
Union Insurance Co	89	90
California Home Insurance Co	—	—
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	79	80
National Insurance Co	—	—
Builders' Insurance Co	90	—
Mining Stocks—Washoe District.		
Alpha	48¾	50
Baltimore American	—	—
Belcher	160	—
Bullion, G. H	9¾	10
Crown Point	66¾	67
Confidence	—	—
Chollar-Potosi	155	156
Daney	—	—
Exchequer	—	—
Empire Mill and Mining Co	115	120
Gould & Curry	92	93
Gold Hill Quartz	64	65
Hale & Norcross	56¼	57
Imperial	107	108
Kentuck	372	373
Lady Bryan	15	16
Ophir	18	—
Overman	89	90
Savage	86¾	89
Sierra Nevada	25	—
Yellow Jacket	1270	1275
Golden Rule, California	10	—

San Francisco Market Rates.

Wholesale Prices.

Friday, Sept 11, 1868.

Flour, Extra, ₱ bbl	$5 75	@$6 50
Do. Superfine	5 25	@ 5 50
Corn Meal, ₱ 100 lbs	3 25	@ 3 50
Wheat, ₱ 100 lbs	1 75	@ 1 90
Oats, ₱ 100 lbs	2 35	@ 2 50
Barley, ₱ 100 lbs	2 35	@ 3 00
Beans, ₱ 100 lbs	3 00	@ 8 00
Potatoes, ₱ 100 lbs	90	@ 1 00
Hay, ₱ ton	10 00	@18 00
Live Oak Wood, ₱ cord	9 00	@10 00
Beef, extra, dressed, ₱ lb	8	@ 10
Sheep, on foot	3 00	@ 3 25
Hogs, on foot, ₱ lb	5	@ 6
Hogs, dressed, ₱ lb	8	@ 9
Groceries, etc.		
Sugar, crushed, ₱ lb	14¾	@ 15
Do. China	10	@ 11½
Coffee, Costa Rica, ₱ lb	15½	@ 16
Do. Rio	—	@ 17
Tea, Japan, ₱ lb	75	@ 90
Do Green	60	@ 1 25
Hawaiian Rice, ₱ lb	—	@ 8
China Rice, ₱ lb	6	@ 6¼
Coal Oil, ₱ gallon	35	@ 40
Candles, ₱ lb	15	@ 17½
Ranch Butter, ₱ lb	40	@ 50
Isthmus Butter, ₱ lb	30	@ 35
Cheese, California, ₱ lb	14	@ 18
Eggs, ₱ dozen	58	@ 60
Lard, ₱ lb	13	@ 14
Ham and Bacon, ₱ lb	12	@ 18
Shoulders, ₱ lb	6	@ 8

Retail Prices.

Butter, California, fresh, ₱ lb	60	@ 75
do. pickled, ₱ lb	30	@ 40
do. Oregon, ₱ lb	15	@ 25
do. New York, ₱ lb	35	@ 40
Cheese, ₱ lb	20	@ 25
Honey, ₱ lb	25	@ 50
Eggs, ₱ dozen	65	@ 75
Lard, ₱ lb	15	@ 17
Hams and Bacon, ₱ lb	20	@ 25
Cranberries, ₱ gallon	88	@ 1 00
Potatoes, ₱ lb	2	@ 3
Potatoes, Sweet, ₱ lb	3	@ 5
Tomatoes, ₱ lb	3	@ 5
Onions, ₱ lb	3	@ 5
Apples, No. 1, ₱ lb	4	@ 5
Pears, Table, ₱ lb	5	@ 7
Plums, dried, ₱ lb	11	@ 13
Peaches, dried, ₱ lb	—	@ —
Oranges, ₱ dozen	75	@ 1 00
Lemons, ₱ dozen	1 00	@ 1 50
Chickens, apiece	50	@ 75
Turkeys, ₱ lb	20	@ 25
Soap, Pale and C. O	7	@ 12
Soap, Castile, ₱ lb	15	@ 16

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

Friday, Sept. 11, 1868.

Iron.—Bnty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar 1@1¼c ₱ lb: Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1¼c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2¼ ₱ lb.		
Scotch and English Pig Iron ₱ ton	$34 00	@$35 00
White Pig ₱ ton	34 00	@ 35 00
Refined Bar, bad assortment ₱ lb	— 03	@ — —
Refined Bar, good assortment, ₱ lb	— 04	@ — —
Boiler, No. 1 to 4	— 04¾	@ — —
Plate, No. 5 to 9	— —	@ — 04¾
Sheet, No. 10 to 13	— 04½	@ — 5
Sheet, No. 14 to 20	— 05	@ — 5¼
Sheet, No. 24 to 27	— 05	@ — 6½
Copper.—Bnty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb		
Sheathing, ₱ lb	— 28	@ — 26
Sheathing, Yellow	— —	@ — 22
Sheathing, Old Yellow	— 11	@ — —
Bolts	— 21	@ — 22
Composition Nails	— 21	@ — 22
Tin Plates.—Bnty: 25 ₱ cent. ad valorem.		
Plates, Charcoal, IX, ₱ box	12 50	@ 13 00
Plates, I C Charcoal	11 00	@ 11 50
Roofing Plates	10 50	@ 11 00
Banca Tin, Slabs, ₱ lb	— —	@ — 30
Steel.—English Cast Steel, ₱ lb	— 15	@ — 15
Quicksilver.—₱ lb	— 55	@ — 60
Lead.—Pig, ₱ lb	— 7½	@ — 8
Sheet	— 10	@ — —
Pipe	— 11	@ — —
Bar	— 9	@ — 9½
Zinc.—Sheets, ₱ lb	— —	@ — 9½
Borax.—California, ₱ lb	— 20	@ — 23

Tin Mines in Colorado.—The standing bounty of the national government for the discovery of a genuine and permanent deposit of tin, has never been awarded. Colorado presents a new claimant in a vein which is thus spoken of:

It is tin ore of the very richest kind—of the variety known in Cornwall as the "resin tin ore." He—a Cornish visitor—says he never saw richer or more perfect ore raised in Cornwall. We have plenty of it. The Spicer lode crops out for about three-eighths of a mile, and seems to be 100 feet wide—all of the same kind of ore we send you. We are sinking a shaft as fast as possible, but have not yet defined the crevice, but are taking out slathers of ore. The Eureka lode is from eight to sixty feet wide, in a defined crevice—all of this kind of ore. This I believe is the first oxide of tin ore ever discovered in America. The tin ore discovered in Missouri was sulphate of tin.

The Golden State, is the name of a newly invented double-action force pump, placed on exhibition by Mr. M. D. Lasswell, the inventor, 747 Mission street. The most novel and attractive feature here presented, is in the attachment of the small valve peculiar to the hydraulic ram, which has not heretofore, so far as we are aware, been applied successfully to any other pump. The inventor claims that by this arrangement, this pump will give far more water than the solid contents of the cylinder, say from seven to ten barrels per day; that while it works very easily, it is as durable as any pump ever built, and more easily repaired than any other in the market. The rapidity with which its different parts can be put together and again taken apart, is remarkable. Another striking feature of this pump is, that while it is mainly of cast iron, its working parts are of brass, giving it the chief advantages possessed by a pump constructed entirely of brass. One of these pumps is attached to Mr. Tustin's Adjustable Windmill, in the yard of the Pavilion.

Hooker's Steam Pump, on exhibition, works very efficiently. It seems to appropriate a large percentage of its power in the right direction. It is remarkably small, compact, and simple, for the amount of work it performs. The flow of water starts and stops instantly with the motion of the check valve. Mr. Hooker, in addition to his several inventions, has recently patented an improved steam engine, which he will probably bring to public notice soon. We like his sturdy, modest demeanor, and believe he has a bright future, as a successful inventor and mechanic.

Mining Summary.

THE following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County.

Markleeville *Miner*, Aug. 29th: The Leviatban Co. sunk this week on their ore deposit sufficient to encourage them to get a pump and keep on down far enough to determine the extent of the body.

There was a strike of quartz in the Rippon claim a few days ago and quite an excitement consequent thereon.

Chronicle, Aug. 29th: Supt. Slaven this week has taken out of the IXL mine, richer ore than ever before. He increases his working force as fast as good miners present themselves.

Robert Ludgate and Jack Miller, of Ione City, discovered and located a coal mine, last week. It is about two miles southeast of Ione City, and the croppings are said to equal the best coal taken from the old mine.

Amador County.

Jackson *Ledger*, Sept. 5th: Phillip Seibenthaler's new quartz mine on Foster's Ridge, above Volcano, continues its rich yield. A drift 80 ft. southerly, was found to contain ore equal to the best in the shaft, and the run of 66 tons paid over $25 to the ton.

The Italian mine, on Else Creek, is turning out ore that would cure the most chronic case of sore eyes.

Old Boh's claim continues to increase daily. The vein is now over ten feet wide, and the rock taken out looks splendid. There is one encouraging feature about it, not a single piece of the rock that has been tried in the mortar has failed to produce gold.

The noted quartz mine at Pine Grove, known as the Anaconda, has been sold to parties in San Francisco. Steam hoisting works will be immediately placed upon the Anaconda. Fine rock has been taken from the main shaft within the past two weeks, and it is believed by those who know the mine, that the purchaser has made a good and certain investment.

At a depth of 375 ft. the lode in the Casco mine has been found seven feet wide, and the rock is of a very flattering quality, in many places showing free gold. Preparations have been made to erect a 20-stamp mill on the mine.

Dispatch, Sept. 5th: The Kennedy mill has been completed, and will commence crushing rock some time during the coming week.

Calaveras County.

Mokelumne Hill *Chronicle*, Sept. 5th: Hardenburgh & Co, whose mine is located near Middle Bar, have struck very rich ore at the depth of 300 ft. It is said that the rock will average $100 per ton.

The Rich Gulch correspondent writes: From the level now being run from the north shaft southerly, there is being taken ore of a higher grade than the Palomo Mining Co. have extracted heretofore. In the opinion of those best able to judge, the extension of this level for about 50 feet further will strike the rich chimney known to be at or near that locality; so that by the time the additional battery is erected and the sulphuret works completed, there will, I think, be returns from ore reduced at this mine that will cause "Mrs. Petticoat" to look to her laurels.

Nothing new from Alexander & Co. The same old pounding is still going on; their battery never stops.

Mr. Smith's claim seems to be in somewhat of a fix.

Kern County.

Havilah *Courier*, Sept. 1st: On Sunday afternoon some Chinamen commenced prospecting on the south side of Copperas Brauch, at the foot log. The Chinamen obtained a good prospect, and it is believed that there are good placer diggings on this branch.

Los Angeles County.

Star, Aug. 8th: The tin mines at Temescal are turning out very well. There are about a dozen Cornish miners at work, who are sinking on the ledge, which is down 30 feet, and exhibits a vein fully 5 feet wide. Ore of a very high percentage has been struck.

Mariposa County.

Mail, Sept. 4th: Already much of the damage done by the floods of last Winter has been repaired, and in a short time the mills will be in successful operation again. The new 20-stamp mill belonging to John Hite, of Hite's Cove, is successfully running and crushing the rich ore taken from his inexhaustable mine. The mine in Hunter's Valley, known as the Oakes & Reese vein, is producing rich ore and getting better every day. A new water mill is in course of construction at the Buckingham Mountain; the company has already on hand, ready for crushing, about 100 tons of rock, which they consider rich in the precious metal. The Mariposa Co. has commenced work in earnest on the dam at the Benton Mills, on the Merced river.

Nevada County.

Transcript, Sept. 2d: Harvey Boone, Superintendent of the Kentucky Gravel Co., has gone to Gold Hill, Nevada, to see whether the stockholders desire to have the work continued on the mine or not.

Sept. 3d: The North Bloomfield Gravel Mining Co. is engaged in building a ditch from the South Fork of Poor Man's Creek, in Eureka townsbip, to carry water to the miners of Bloomfield township and the ridge. They are increasing the force at work as rapidly as possible, and expect soon to have 1,500 Chinamen in the line of the ditch. The company some time since bought a number of mining claims near North Bloomfield, which they propose to supply with water, and all others who desire. On Tuesday last, the Co. filed articles of incorporation in the Secretary of State's office, with capital stock fixed at $800,000.

Sept. 4th: A party is engaged in working a small ledge near the Norridgewalk Mill, from which good pay is obtained. The rock is raised by a windlass, the owner takes it to his house in a wheelbarrow and works it in a small arastra. We understand that even by this slow process he is making a "good thing."

Thirty or forty tons of excellent rock from the Potosi mine is being hauled to the French Mill to be crushed.

Sept. 8th: Chas. Phelps, the original locator of Phelp's Hill, near Washington, in this county, made a rich strike, about six weeks ago. Mr. Phelps commenced running a tunnel into the hill, about three years ago, and has worked in it more or less every season. The tunnel has paid expenses ever since he commenced work, but about six weeks ago he struck the main channel of gravel. He does not know the width or depth of the stratum, but it is supposed to be from 10 to 12 feet deep and 100 feet wide. The gold varies from fine grains up to the size of a pea, and he has found lumps worth $52. We saw yesterday four ounces, in which the lumps were as large as the kernels of peanuts. As soon as the tunnel is run through, Mr. Phelps proposes to put on hydraulic power and wash the ground off.

Gautier and others have located, under the name of the Golden Co., a claim of 1,500 feet, on a ledge a mile and a half from Grass Valley, near Bocker's Sulphuret Works.

A few days since the Birchville Co., at Eureka, struck the ledge in their new tunnel and found it exceedingly rich.

The Lower Channel Co. have located 12,000 feet of ground for a tail-sluice, commencing at the southwestern terminus of the Lower Channel Co., in Penn Valley.

Gazette, Sept. 3d: A gentleman who came down from Graniteville lately, informs us that a rich ledge was struck there last week by two prospectors by the names of "Happy Jack" and "Tobacco Bill." The ledge is large and well defined, and miners think the rock will yield from $35 to $40 per ton.

The repairs and improvements recently made in the Banner Mill and Hoisting Works are completed, and the mine is yielding excellent quartz. The 30-stamp mill is continually at work, and plenty of rock is always on hand.

The New York Mill, formerly known as the Sneath & Clay, will commence crushing this morning a lot of 100 to 150 tons of rock from the Wagoner ledge.

Grass Valley *National*, Sept. 4th: Considerable prospecting is going on in every direction, and the gold harvest of Grass Valley and vicinity promises to be augmented.

The Union Hill mine had a clean-up on Wednesday, and from 150 tons of rock 206 ounces of gold were realized. This gives an average of $25 per ton.

Grass Valley *Union*, Sept. 1st: The Birchville mill is crushing 100 tons of float rock, picked up on their claims, which will pay $40 per ton. They have struck the ledge in their tunnel. Palmer, Cowles, Grandy & Co. struck a very fine ledge, some days ago, about one mile from the South Fork. They had some rock crushed at Black's Mill which yielded $35 per ton. Valentine & Co., of San Francisco, have bought three shares in the Golden Age ledge, and intend to erect a 10-stamp mill on it. The Jim mine's last clean-up was not as good as was expected. The Golden Eagle, 400 yards east of the Jim, is now in 400 feet, and expecting at any moment to strike their ledge. The rock of this ledge in the upper tunnel will pay over $50 per ton. Sweet & Co. are now taking out good rock from the mine, which is being crushed at Parramore & Co.'s arastras. It will average $20 per ton. The Star Co. are still running for their ledge. The Mountain Queen ledge, in God's country, is about one mile from the Star. The rock from the ledge I have seen prospected several times, and nothing in this district will compare with it. It resembles the rock of the Banner mine, of Nevada City. The company have struck the ledge in three different shafts, and it is from three to five feet wide. They are about to lease the Star mill, in order to have a crushing.

Plumas County.

Quincy *National*, August 29th: Joe Hickman, on the North Fork of the Carihoo, has one of the richest and best paying mining claims in the State. Week before last he took out, working alone with a rocker, over six ounces. His claim consists of a bowlder deposit capped over with cement, cropping out on the bluffs of the North Fork. This deposit can be traced for miles, and has only been tapped at Carihoo, where several other companies are getting big pay in the same deposit.

San Bernardino County.

Guardian, Aug. 8th: The miners on Lytle Creek were doing well. Harpending & Co. were preparing to build a large flume. A party of Frenchmen have been making $40 a day.

Tuolumne County.

Sonora *Democrat*, Sept. 5th: James Tulloch is working a mine on Green Spring Run, near Byrne's Ferry. He has a shaft sunk on it to a depth of 70 feet, and at that depth the vein is 3½ feet wide. The vein is not of the "pocket" character, but the gold is fine and diffused through the rock. One ton of average rock taken from a depth of fifty feet, recently crushed in an arastra, yielded $15, free gold. The vein runs on the east side of the copper belt. Mr. Tulloch intends to shortly erect a mill on his mine, as he is satisfied that it will pay well.

The Portuguese Co., now working the East Fork claim formerly owned by Van-Matre & Co., are averaging half an ounce a day to the hand. A number of other Portuguese miners have lately located or bought claims in that vicinity.

ARIZONA.

Prescott *Miner*, Aug. 15th: Work upon the Chase is progressing. The ledge in the new tunnel is looking well.

In Big Bug things look smiling. Smith & Gaviu are building their arastra, and three or four placer mining companies are at work sluicing.

On Lower Lynx Creek and the Hassayampa, the placer miners are doing well.

Our Wickenburg correspondent says the mills are doing better than ever.

Shoup, Griffin & Lovejoy had considerable work to do in their hydraulic claims, before they commenced piping, but everything has been fixed up snugly, and they are now tearing down the banks in regular Timbuctoo style.

Aug. 22d: Late news from Big Bug is that placer mining is all the rage there. Gavin & Osborn were sluicing away in their new diggings, with flattering prospects. They had prospected their bar thoroughly. The bar is of great length, and averages 100 ft. in width. The dirt, from surface to bedrock, contains gold, and some strata prospect from 25 cents to $1 to the pan. Allen and Taylor declare it the richest and most extensive placer mining claim they have seen anywhere in the country.

Mr. Thomas, an old Big Bug miner, who came over from there on Tuesday evening last, confirms the statement of Messrs. Allen and Taylor, and pronounce the bar a big thing. He also informs us that the German Co., and Capt. Lewis were at work in the old Mexican Gulch, making fair wages.

Four hundred feet in the eastern extension of the Vulture lode at Wickenburg, was recently sold for $5,800.

The arastras on Lynx Creek are running and will continue to do so until water gives out.

Work for the present has ceased on the Platanca mine.

The first clean-up made by Jackson & Co., in the Excelsior diggings, paid $15 a day to the hand.

IDAHO.

Owyhee *Avalanche*, August 29th: Late intelligence from Cariboo states that great excitement has been created by the discovery of a large prospect on Peterson Creek.

The Pickens and Edwards tunnel, at Cottonwood, is now in on the ledge 70 feet, where the vein is three feet wide and shows exceedingly rich in silver.

Lewiston *Journal*, July 15th: A new placer mining district has been discovered on the headwaters of the St. Joseph's river, and about eighty miles east of Oro Fino. Quite a number of persons have left this place for the new mines. Three different camps have been formed, either of which will prove good.

Boise *World*, August 26th: Northington and Madden came in from the diggings in Deadwood Basin, last Sunday evening. They report about 60 miners in the district, and they are generally making from wages to good pay. The river diggings have been worked by Highland & Co. for a week, but with what result was not known.

MONTANA.

Helena *Post*, Aug. 28th: We learn that a tributary of Beef Straight Gulch, called American Gulch, has recently been found to contain rich deposits of gold, and that it is now being successfully worked. Although this gulch has been prospected for a number of years, gold has not been found in paying quantities until quite recently.

Wm. Nowlan returned from Cable on Saturday night, bringing with him 359 ozs. of fine gold retort, the result of one week's run in his mill upon Cable ore. The richness of this lead continues unabated.

Mr. David Lusk, just arrived in this city, states that fabulously rich placer mines have been discovered in the Coeur d' Alene Mountains, on the headwaters of the Coeur d' Alene and St. Joseph rivers. These new diggings are 300 miles from here, and are creating an intense excitement, especially on the other side of the range. Mr. Sweeney, formerly of Washington Gulch, has been prospecting in the Coeur d' Alene Mountains for two years, and struck it rich about four weeks ago. His claim is situated on a stream 45 miles in length. From this ground he obtains prospects of $1 to the pan, in a strip of pay gravel four feet deep and 25 ft. in width. Good prospects have been obtained all along the banks of this river, and 200 men are now engaged there opening claims. Sweeney's is the only one upon which a sluice is running. On Booth's River, seven miles southwest of Sweeney's River, prospects of from 25 to 75 cents to the pan are obtained, with a pay streak six feet in depth and 18 inches wide. Upon still another river, from 10 to 15 cents to the pan is obtained. Tributary to all these rivers are numerous gulches, in which good prospects are obtained, in fact, the whole of that section of country seems to be a net work of rich placer mines. There are, in these new diggings, about 700 men, and immense numbers on horseback and on foot, and with every conceivable character of an outfit, are hurrying to them from every point of the compass.

The miners engaged in cleaning bedrock at German Gulch, are taking out big pay, and a lively camp is the consequence.

American Gulch is proving rich in discovery claim.

Capt. Hendric, recently from Rochester district, informs us that the Watseka lead has much improved, with a crevice 5½ ft. wide. He brought in with him 115 ozs. of retort, the result of one week's run in his mill, with eight stamps, on Watseka quartz, the average yield per ton being $40 in currency. The erection of Wamm's 10-stamp mill, also to run on Watseka ore, is progressing rapidly.

Great excitement exists at Beartown and vicinity concerning the new mines in the Coeur d' Alene Mountains. A bar has been discovered there seven miles in length and about 400 feet in width, the dirt upon which, so far as tested, is from 4 to 12 ft. in depth, and prospects from 10 cents to $1.85 cents to the pan. The creek below the bar prospects well.

A correspondent writing from Prairie Bar, says: The bar is about 1¼ miles in length, and from two to three miles in width, with good prospects from the river to the summit. The pay dirt is from 5 to 15 feet in depth, and yields fine gold from the top down. Some 31 claims have been opened, all proving rich. A scarcity of water prevents more than 12 or 15 claims being worked at present. Eighty hydraulics are kept constantly running, and several companies are engaged in ground sluicing on an extensive scale.

The Virginia *Democrat*, says: The Branham lode, at Mill Creek, recently cleaned up retort of the value of $600, or at the rate of $75 per ton for the amount crushed. One week ago Messrs. Hussey, Dahler & Co. received 1,707 ounces of bullion from Argenta, the proceeds of an 18 days' run in the Esler Furnace. The lot is worth $3,000....The miners of Banuack took out $150,000 during the past winter.

Molitor Bros. yesterday smelted over 1,000 ounces of gold dust, worth $19,000 in coin.

NEVADA.

Esmeralda.

Aurora *Union*, Aug. 29th: Mr. Williams, of Hot Springs, brought up on the 27th, from the company's furnaces, 9,215 lbs. of crude bullion. We understand that another party from the springs has 500 lbs. on the road.

Humboldt.

Winnemucca *Argent*, Sept. 3d: J. M. White brought down 141 lbs. of bullion on Tuesday. Late returns shows that it assays from $10 to $12 per pound. Water is gradually failing and the usual weekly amount of rock cannot be crushed. The ore is as rich as ever.

Holt & Elzy have taken the machinery out of the Holt mill here, and it is now being put up within a mile of the mine, and will have a daily working capacity of six tons.

Several men representing capital have lately visited Gold Run district, and all highly estimate the mines.

A correspondent at Battle Mountain writes: Fox & McBeth are pushing things ahead. They have a tunnel in 70 ft., and are working two shifts. They are also employed building a road up to the mine.

There are from 25 to 36 claims located.

The copper ore in this district is as rich as I have seen in any part of the State, and resembles in appearance Walker River and Peavine ores.

Unionville *Register*, Sept. 5th: The latest news from Battle Mountain district, show a healthy state of affairs there. The Little Giant ledge looks better every day. The new mill is drawing rapidly towards completion.

Reese River.

Austin *Reveille*, Aug. 29th: The Combination Co's mill will be closed next Monday. Work is progressing handsomely on Leon & Co., El Dorado South, which is producing an abundance of milling ore.

Sept. 1st: There were shipped during the month of August, through Wells, Fargo & Co's express, 225 bars of bullion, weighing 67,172.13 ozs., of the value of $266,474.

Sept. 2d: Thirteen bars of bullion, of the value of $16,500, were shipped to Boston yesterday by John A. Paxton & Co. They were the product of ore from the Buel North Star mine.

Three bars of bullion, of the value of $2,670 were received to-day at the banking house of John A. Paxton & Co., from the Twin River S. M. Co's mill at Ophir Cañon.

The amount of bullion shipped by the Manhattan Silver Mining Co. for the month of August is $151,538.83.

John A. Paxton & Co. received yesterday five bars of bullion of the value of $4,400, from the Knickerbocker mill at Ione.

Capt. Paine, who has just returned from White Pine, gives the following regarding that district. The mines are looking better than ever, developments showing a richer and better quality of ore yet obtained. The Blue Bell shaft establishes beyond doubt that the Eberhardt and Keystone is a true vein, for therein the south wall of the ledge, well defined, is clearly and distinctly shown.

Sept. 3d: The mines in the Ione district are being worked with a degree of vigor, considering the disadvantages under which the miners of that district are laboring. The Indianapolis and Storm King ledges have been worked since last fall, yielding each an average of 15 tons of ore per week, the first paying over $100 per ton and the latter $150 per ton. The incline of the Indianapolis has reached a depth of 240 feet, and that of the Storm King a depth of 250 feet, and both mines look very well. Besides these several batches of ore have been taken out of the Hermit, Savage and Mountain Brow ledges, all paying handsomely.

Sept. 4th: From 90 to 100 tons of ore has been extracted and are now piled in the ore house at the South American mine, which will pay $200 per ton. The ore will be hauled to the mill next week.

Virginia *Enterprise*, Sept. 4th: Some very rich specimens of ore are brought in from White Pine and other outside districts in that section, by parties who have been rambling and prospecting in that direction. The richest ores of the mines in that part of the State are those of ruby silver. We yesterday saw a large lump of ruby ore nearly the whole of which was so pure that it was quite malleable. It was obtained from a mine somewhere in the vicinity of White Pine, but the exact locality we are unable to learn, the parties prefering not to make it known at present. They say they have $120,000 worth of ore piled up at their lead.

Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Virginia *Enterprise*, Sept. 2d: Seven hundred and seventy thousand dollars was the total bullion product of the mines of Gold Hill for the past month.

Sept. 3d: The Summit mill will resume work in a day or two. It has been altered and fitted up for working gold quartz exclusively. None of the pans will be used for amalgamating, their place being taken by a string of about 120 sluices, furnished with copper plates or blankets. The mill will start up on ore from the Sacramento mine, Cedar Hill. They have a considerable quantity of this ore on hand, and teams are still engaged in hauling.

The Hale & Norcross Co. have found a fine body of ore in their north drift on the 900-foot level of their mine. It is thought that the ore in the north streak will pay about $60 to the ton. The deposit is 10 or 12 ft. wide, and has been traced for a distance of over 100 feet.

The Alpha Co. have at last reached the point in their mine at which they ceased operations last year. They have a vein of ore some three ft. in width that will pay about $60 per ton. This streak appears to be growing wider as it is sunk upon, and it is thought that it is the upper edge of a large deposit.

Sept. 8th: The Bower's mine, at Gold Hill, so long unproductive, is again beginning to give forth its treasures of silver and gold. Bricks to the value of $6,000 have been extracted from the ores of the mine during the last eight days.

The Kentuck Co. have declared a dividend of $30 per share, payable on the 10th inst.

Gold Hill *News*, Sept. 1st: Two assays of galena ore from the Imperial Consolidated mine, Truckee district, were made in Gold Hill yesterday, one by Ruhling & Co., and the other by Wiegand & Co. The samples assayed were a fair average of six tons which the company is now taking out of its mine, to have smelted at Galena, Washoe County, and yielded at the rate of $236.86 and $205.88 in silver per ton of ore.

Wells, Fargo & Co. shipped from their office in Gold Hill, yesterday, 27 sacks of assayed bullion, weighing 1,925 pounds, and valued at $60,984.59.

Sept. 2d: The Bonner shaft of the Gould & Curry mine has now attained the depth of about 1,050 ft., and at the bottom vein matter is now encountered of a very promising appearance.

There was shipped from Wells, Fargo & Co's Gold Hill office this morning, 12 sacks of bullion, weighing 847 pounds, and of the value of $25,114.78.

NEW MEXICO.

Santa Fe *Gazette*, Aug. 15th: Capt. Santiago L. Hubbell is in the city, and talks most encouragingly of the mines in Magdalena Mountains, Socorro County.

OREGON.

Jacksonville *Sentinel*, Aug. 29th: Dillon and Bowden started on a prospecting expedition to the headwaters of Evan's Creek, on Thursday. They are after the "lost cabin."

Dalles *Mountaineer*, Aug. 21st: Rumor says that some Blue Mountain prospectors have struck rich diggings on Burnt River. Portions of the Cascade Mountains are also full of prospectors.

Portland *Oregonian*, Aug. 22d: Henry Hill, just down from the mines on the McKenzie, reports everything lively. A good prospect for placer diggings has been found on Blue, and Mr. H. thinks there is plenty of good paying ground there.

Branch Roads to the Mines.—The Colorado, Reese River, and Virginia City mines are all to be connected with the main continental road by short branches. Fifteen miles of the road-bed of the Denver Branch of the Pacific Railroad are completed, and the work progresses rapidly toward the Platte. For some reason or other the commencement of actual work on the Virginia City and Truckee Railroad has been deferred, and there is nothing likely to be done during the present season.

Telegraphic Connection with the City of Mexico.—General Escobedo and his soldiers are busily employed on a telegraph line running from the capital to the frontier at Matamoras. Meantime our telegraphs near the Mexican frontier are within short distances of Brownsville, about opposite Matamoras. In a few weeks more there will be a message from Juarez, announcing the event of our being placed in speaking communication with the city of the Montezumas.

Prof. Goldwin Smith, of Oxford University, England, has accepted the professorship of Constitutional History at Cornwall University, Ithica, N. Y.

Mechanical.

Crucible and Furnace Steel.

The following is an extract from an article translated for the *Iron Age*, from a German Mining Journal:

"It was long desirable to dispense with the expensive crucibles in making steel; but it is only a short time since Mons. E. Martin, a Frenchman, after several years experimenting, seems to have succeeded in discovering such a method. Many well-informed men in France build great expectations on it. The furnace employed by Martin in his works at Sireuil, near Angouleme, is a Siemens' reverberatory furnace, with regenerators and a concave bottom. Two thousand kilogrammes of steel is said to be produced in this furnace at every operation, for which eight to twelve hours is required. Martin chiefly manufactures soft steel for gun barrels, which he sells to the government at 90 francs per 100 kilogrammes. According to experiment made with it, this steel is said to be fully equal to the best crucible steel. In consequence of this the French government, shortly previous to the Exposition, ordered 150,000 gun barrels of Martin. In making the steel he employs a mixture of good raw iron, puddle steel or puddle iron, and rich iron ore. According to a report made to the jury, one melting consisted of 1,200 kilogr. gray raw iron, 700 kil. puddle steel, and 146 kil. of Algeriau magnetic iron ore containing 65 per cent. of metal; from this 1,672 kil. of steel and 53 kil. of shavings were obtained in 7¼ hours. On other occasions, 3,350 kil. of raw iron, 53 kil. steel shavings, 1,000 kil. puddle steel, 1,600 kil. puddle iron, 189 kil. Algerian ore were used, which yielded 5,618 kil. of steel; 5,850 kil. of hard coal was required for the operation. The iron is first put into the furnace, and when this is melted the other ingredients are added in smaller quantities. It is computed that the quantity of hard coal required to make 1,000 lbs. of steel is, at the highest figure, 1,000 lbs.; the expenses amount to 150 francs per 1,000 lbs. One furnace is said to outlast 25 meltings, needing only slight repairs in the bottom. The rectangular bowl-like bottom of the furnace is made of raw iron; this is covered with a layer of metal containing a great deal of quartz and very hard of melting, about six centimeters in thickness. In the middle of the opposite side is an opening for tapping the melted steel; on this side the bottom is slightly inclined. During the melting, scoria forms, which protects the steel from the direct influence of the flames. The plate forming the bottom is cooled by means of three blast pipes passing underneath; the inflammable gases and the hot air escape through the vertical pipes; those intended for the escape of gas are nearest the interior of the furnace. Draft generators like those of the crucible furnaces discharge the inflammable gases.

American Rifles and English Tests.—On July 27th, the Berdan rifle was tested at the Springfield Armory. At 300 yards the deviation was 2.93 seconds,—while the English Government standard is 6. At 500 yards it was 6.5; the English standard allows 12. Moreover, only a slight elevation, as compared with that required by English rules, was necessary. Furthermore, the whole 150 shots which were fired, were made without once cleaning the barrel. The *Artisan* says that with regard to the English trials at Woolwich, "it may be briefly stated that of the ninety guns and fifty cartridges presented, none, in all respects, came up to the advertised standard; while the results given by the improved Berdan rifle, in every essential particular, are claimed to exceed the best of them by one-half."

The Thinnest yet.—At the iron works of Messrs. Hallam & Co., an English firm, a sheet of iron was recently rolled, which was only one forty-eight hundredth of an inch in thickness. This beats the specimen produced some time since in this country, upon which a letter was written announcing the name of the works where it was made. That was the one-thousandth of an inch thick. Our American unwillingness to be excelled, will no doubt incite our ironmasters to attend to this matter. *Seventy-two thousand* such plates as the one first mentioned, would make a pile as thick as *one* of those armor plates which are rolled by Brown, of Sheffield,—and which measure 15 inches in thickness!

Scientific Miscellany.

Gas Lamps for Heating Crucibles.—W. P. Dexter, in *Silliman's Journal* for July, describes an improved lamp which he has constructed for the ignition of platinum crucibles in analytical operations. With an ordinary Bunsen burner, the surface of the crucible is more or less acted upon, if in contact with the inner line of the flame. He removes the air tube, and substitutes "a somewhat longer one of glass or iron of about twelve millimeters internal diameter. The gas jet should have a single circular aperture, and be in proper proportion to the diameter of the tube, which may be held in any of the ordinary clamp supports. The tube being raised sufficiently above the jet to allow free entrance of air, and a full stream of gas let on, a 'roaring' flame is produced, of which the interior blue cone is pointed, sharply defined, and extends only about half an inch from the top of the tube. A polished platinum surface is not acted upon by this flame provided it be not brought into contact with the interior cone. In the Bunsen burner, as usually made, the supply of air depends upon the diameter of the tube, the holes at its base being more than sufficient to supply the draught. With the wider tube it is necessary to limit the admission of air by depressing the tube upon the lamp when the force of the gas is diminished. Otherwise the proportion becomes such that an explosive mixture is formed; for this reason it is more convenient to use an arrangement in which the access of air can be regulated by an exterior tube sliding obliquely downward over the air apertures. The gas jet should be on a level with the top of these apertures, which must be much larger than those of the ordinary Bunsen's burner."

Liebig and his Opponents.—In a recent lecture before the Bavarian Academy of Sciences, Baron Liebig alluded to the doctrines which have been advanced by Frankland and others, in regard to the mode in which muscular power is generated. He remarked that these doctrines are based upon imperfect conceptions of the nature of the organic process involved. It was just as impossible, by the combustion of dried muscle, to calculate its efficiency in the living body (the assumption of these physicists), as it was by the combustion of a dried bee to estimate the work which it accomplishes in the flight of many hours, carrying the weight of its own body several miles. The muscle in the living body acts like the apparatus in a watch, which gradually expends the power stored up in it. A freshly severed frog's leg represents an apparatus of this kind, with an escapement, while the newly removed heart of the same animal corresponds to one without escapement; the frog's heart beating for hours just as in the living body, while the frog's leg moves as soon as an irritant sets it for a moment; free from the escapement and if small weights are hung on them, it is possible to obtain work from a pair of severed frog's legs—that is, the weight will again and again be alternately raised to a certain height, without blood or the supply of any kind of nourishment.

Distance-Measuring Telescope. — In order to sight a rifle to the proper elevation, it is necessary to know the distance of the target. *Engineering* describes a telescope, just patented, by which the distance of infantry or cavalry may be calculated instantaneously. It has been approved by the Ordnance Select Committee. The means by which the distance is obtained consist of two wires moved by a disk, on which are divisions showing the distance of the troops according to the aperture between the wires. The motion of the wire is produced by a double eccentric moving round the smaller tube to the telescope.

Zirconia for the Oxy-Hydrogen Light. It has been found that magnesia pencils will be gradually wasted in the intense heat of the burning jet of the mixed gases; hence the necessity for some substance that will resist this heat indefinitely. M. Carou, after various experiments, has adopted the earth Zirconia. A pencil of this substance showed no loss after a month's use. In addition to this, it possesses the further advantage of greater luminosity than magnesia. It is, however, rare and expensive, yet it can be economized by mixing it with magnesia or refractory clay.

Mining and Scientific Press.

W. B. EWER.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

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Our Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

Dr. L. G. Yates is our duly authorized traveling agent. July 6, 1867.

Mr. A. B. Butler is a duly authorized traveling agent and correspondent for this paper. July 15, 1867.

Resident Agents.

CENTRAL CITY, C. T.—Messrs. Richards & Crane, of the City Book Store, Main street, will act as our agents.

GEORGETOWN, C. T.—John A. Lafferty, Postmaster, is our agent in this place.

DENVER CITY, C. T.—Messrs. Woolworth & Moffat, are our agents for this place.

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San Francisco:

Saturday Morning, Sept. 12, 1868.

Notices to Correspondents.

H. C., PRESCOTT, A. T.—By two inches of water do you mean to imply, as used in mining phraseology, when applied to what is called "hydraulic mining?" Or do you use it in the scientific mode, of two cubic inches per second, or per minute? Even at the former rate, your spring would only be able to furnish one cubic foot, or seven and a half gallons in fifteen minutes—too small an amount to repay the cost of a water-ram for the purpose you propose; for the distance you name (two hundred yards), and to raise a portion the hight you desire (fifty feet), not more than one-fifth of the power could be expected to be utilized, or one gallon and a half each quarter of an hour.

W. & C., HAVILAH, KERN CO.—We regret that we cannot inform you respecting the cost of ice manufacturing machines; much less than such a one as you seem to require, viz: having a capacity for making one ton of ice every twenty-four hours. Perhaps the articles which have appeared in the MINING AND SCIENTIFIC PRESS of the 21st of September, 1867, page 177, and March 23d, 1867, page 184, may supply you some useful information. A really simple and economical ice manufacturing machine appears to us to be still a desideratum. Of the two articles just noticed, perhaps an adaptation of M. Carrés—the one first alluded to—might be made economically available in your position.

CARBON.—We are quite unable to afford you the needful information respecting the value per ton, of 2,000 pounds, of what you denominate "first-class plumbago." Perhaps no commercial substance varies so much in its price, for there are differences in quality quite unapparent to one not experienced in the material. Even with plumbago of first quality, the value within the last twenty years has greatly depreciated. A considerable quantity of what was supposed by the owner to be good quality plumbago, was shipped from this city to England, some time ago, which, on its arrival, was found to be not worth its freight. Really first quality plumbago still, however, obtains a high price.

N. W., SMARTSVILLE.—The Suez Canal project exhibits signs of failure. The French *Corps Legislatif* has proposed to raise the wind by means of a lottery, with premiums amounting to 1,000,000f; but the question is raised, "Will the Suez Canal pay when it is finished?" Small craft can go through the canal, but commerce has not yet commenced to flow by that channel. The Darien Canal project is now discussed.

RECIPROCITY.—Free trade principles are actual, not speculative in England, as may be inferred from the fact that a newly erected cotton mill at Preston, Lancashire, in that country, was recently supplied with machinery from Belgium. It is also reported that Alexander, of Barcelona, (Spain) is now manufacturing marine engines of several hundred horse-power for a Liverpool firm.

The Hafenegger Powder.

A number of professional and scientific gentlemen went out to Harbor View House, in the vicinity of the Presidio, on Thursday forenoon, by invitation of the Hafenegger Powder Company, for the purpose of witnessing the first public trial of that explosive compound. Ten or a dozen different tests were made, with very satisfactory results.

The Hafenegger powder is named after the inventor, Prof. Joseph Hafenegger, an Austrian by birth, and a jeweler and chemist by profession, who has resided in this country for two years past, but who has devoted the last seven years of his life to patient and dangerous experimenting with explosive compounds, in the hope of discovering such a combination of well-known, inexpensive, and everywhere procurable chemicals, as would obviate the extreme dangers hitherto attending the application of anything else than gunpowder to utilitarian purposes, and at the same time to supersede gunpowder on the score of economy and execution. It is an old problem which has exercised the brains of alchemists and philosophers ever since the dark times away back in the Thirteenth Century, when wise old Bacon wrote mysteriously, in anagrammatic Latin that there was a way by which man could create even thunder and lightning with all the ease of the gods, if he only possessed the knowledge to apply the ingredients. It has been a fascination and an infatuation, this inherent striving of the human intellect to grasp and control powers which are beyond the scope of man's animal sphere, and which would elevate him to the position of a demigod in creation, where he has but to will it and the earth is made to quake, or thunderbolts as terrible as Jove's are instantaneously hurled whithersoever he may direct his displeasure. We may note how man has been made to feel his power, since the control of terrible explosives has been placed into his ruling hand, by Invention; and what an educating influence in the history of civilization the possession of that knowledge has been? But the infernal powers have not surrendered their secrets without causing many sacrifices to be made for man's temerity. Thousands have been blown to atoms by the same forces which the world, through their misfortune, has now learned to command with the utmost confidence and ease.

Prof. Hafenegger has been residing in the sand hills somewhere on the seaward side of one of our hills, where the slumbers of numerous unknowing and unsuspecting neighbors have been frequently disturbed by earthquakes that literally changed the contour of the hills, and which, for unaccountable reasons, happened always in the night time. To them, however, the master of the earthquakes was kind, for nobody's person or premises was ever known to be injured; and the most strange phenomenon observable was merely the extraordinary tumbling about of the hills, as discovered by the earliest risers in the morning.

The result is the combination sought for—possessing all the qualities which could satisfy the inventor of having achieved a complete success; and a desire to convince others besides the capitalists who have taken the business in hand with liberal energy, of the superior powers and increased safety and certainty of the new powder, was the occasion for an excursion to Strawberry Island and the trials and comparisons that were there made. Strictly speaking, however, the exhibition was gotten up for the edification and information of a committee of the Mechanics' Institute Fair, where the subdivision of explosives is embraced in Class V. There were other gentlemen in the company, having some special knowledge of the subject to be experimented upon; amongst them, Melville Attwood, M.E.; Capt. Tuttle, formerly of the U. S. Army; a representative of the Santa Cruz Powder Company, whose name we did not learn; Mr. Hallidie the President of the Mechanics' Institute; Mr. Eckart, of the Union Iron Works, etc. Being so near the close of the Fair, the time did not allow of getting up a very thorough exhibition to show the effects of the powder on various kinds of materials; but the committee having been sufficiently enlightened as to the nature and claims of the new powder, a more thorough exhibition is proposed by the company at a later day, when engineers and critical observers will be furnished with every facility to arrive at a satisfactory conclusion.

Prof. Hafenegger has 15 different varieties of this new powder; one of the two kinds tried on Thursday being proved, by actual experiments, to have five hundred and sixty times the strength of common powder. He says he has also another compound, which he has made and experimented with in private, that is still more powerful than any he proposes to manufacture. Owing to the great danger experienced in the making and use of this last mentioned article, he has given up farther experiments with it. A weaker kind is used for gunnery and fire arms. The first mentioned powder is grey in color, and is not explosive until saturated with a liquid which is kept separately, and is equally harmless until brought into proper combination. The weaker powder is also grey, but requires no liquid saturation, and is used exactly like the ordinary gunpowder, over which it has the advantage of not being injured by moisture. For blasting, a self-igniting match consisting of a piece of ordinary paper on which a few drops of liquid are poured, also invented by Prof. Hafenegger, is used. The experiments made were as follows:

1. The first trial was with twelve ounces of the strongest powder, the place selected being a well which had been filled up to within five or six feet of the surface. An iron ring about a foot in diameter was placed on a solid wood foundation in the bottom of the well. On this was placed a mass of iron an inch and a half in thickness, composed of four slabs of wrought iron, each three-eighths of an inch thick, which were firmly riveted together. A mass of solid copper weighing one hundred and twenty pounds, a foot in width and seven inches in height, and having a hole two inches in diameter bored completely through it, was placed on the iron plate. The powder was now put into the hole in the lump of copper, and the fluid, which makes the powder, was poured into the cavity. A cannon ball weighing one hundred and forty pounds was now placed over the hole in the copper, and the blast was ready for explosion. The fuse used was of the ordinary kind, having a paper wrapped around the end to be ignited, to which the self-igniting liquid was applied. This liquid will, according to the strength applied, ignite in from one to five minutes, or a longer time if desired, after it is exposed to the air. The blast exploded with a sharp report, resembling the bursting of a thunderbolt close by. The cannon ball was thrown from twenty-five to thirty feet above the surface, and the bags of sand, piled around the mouth of the aperture to keep pieces from flying, were raised from the boards on which they were laid, and fell into the hole. It was found that the iron slab was indented to the depth of one and a half inches, and the plates cracked in several places. The upper half of the lump of copper was completely blown off, leaving the remaining portion jagged and cracked. There would probably have been greater destruction had the lump of copper been cut so as to have laid smooth on the plate of iron. A similar experiment was tried the day previous, in the presence of the Directors of the Company with much better results. The wrought iron cylinder used to hold the powder was blown to atoms, and a large ragged hole was torn through the center of the iron plates used. All of the pieces left from these two trials have been taken to the Mechanics' Fair, where they will remain on exhibition.

2. A charge of one-eighth of an ounce was placed in a small excavation in a solid block of iron, and covered by a cannon ball weighing ten pounds. The explosion threw the ball into the air about 25 feet.

3. One ounce of the mixture was placed in a hole 13 inches deep in a solid iron and covered by a tinner's anvil weighing seven pounds. The force of the explosion threw the anvil fully 1,100 feet high, the time of the ascent and descent being kept by one of the party. The steel face of the anvil was indented by the force of the explosion. It was found that common powder, placed in the same cavities used in the above experiment, did not even raise the weights. The anvil is also on exhibition in the Fair.

4. Six grains were now placed in an excavation, in the iron, which was one-half of an inch in diameter and one inch deep, and were covered by an anvil weighing 5¼ pounds. On being fired, the weight was thrown into the air *six feet*. Seven ounces of common powder (which is in the proportion of 1 to 560,) placed in a large hole, did not throw down the iron.

5. One-half of an ounce of the powder was placed in a druggist's small iron mortar and covered by a common beer keg. The force of the explosion threw the keg into the air about 35 feet.

6. Thirty ounces, or 2½ pounds of common powder were exploded in the same manner, and the keg was only raised about a foot.

7. Two and a half ounces of the weaker or dry Hafenegger powder were now placed in the mortar and covered by a barrel weighing 76 pounds. The barrel was thrown into the air between 50 and 60 feet.

As to relative strength, gun cotton is about 12 times as effective as ordinary gunpowder; nitro-glycerine is 16 times; the weakest Hafenegger powder, 20 times, and the strongest Hafenegger powder used is 590 times as strong as ordinary gunpowder. In general, the latter is estimated to do ten times the work of ordinary gunpowder. It can be sold at from 60 to 70 cents a pound.

The special claims in favor of the powder are: first, its cheapness; second, its strength,—expansive, lifting and crushing; third, the ease and simplicity of its manufacture, no heavy and expensive machinery, and no extraordinary skill being required, An ordinary knowledge of chemistry is sufficient to enable a person to prepare the original ingredients, and but little more than a mechanical knowledge is requisite to complete the article. The raw materials can be obtained in any part of the world. Fourth, safety of transportation and storage; fifth, safety in use; sixth, explosibility by ordinary means, as by fire-fuse when mixed.

The advantages claimed for the self-igniting match are: first, its safety for blasting under all circumstances, there being no fire about, and no danger of a too hasty burning of the fuse; second, certainty of ignition; third, cheapness; fourth, portability.

Patents have been applied for through the MINING AND SCIENTIFIC PRESS PATENT AGENCY, to cover every civilized country in the world. This, of itself, is significant, as showing the confidence felt by the capitalists who have undertaken the manufacture of the Hafenegger powder, in its certain success and universal application. It is the first instance in the history of California inventions where the necessary steps have been taken for the procurance of patents for the whole world.

DAILY FAIR PRESS.—Copies of this sheet, bound and complete, and embracing reports of all the important incidents at the Fair, as well as full descriptions of articles on exhibition, can be procured of the publisher after the Fair closes. The volume will form a full and complete history of the Exhibition, and will be very valuable for preservation and future reference. Exhibitors who advertise and receive special notices in the paper, by procuring the volume, can enjoy the benefit of the same for their private libraries. The pleasure of the perusal of such a volume, in after times, will be worth many times its cost.

A LABOR EXCHANGE AT NEW YORK has been opened in Castle Garden. During 12 days there were applications for laborers, 2,012; for employment, 1,804; average orders per day, 168; average applications, 150; average wages per month, for men, $25; for women, $9.

Next Meeting of the American Association for the Advancement of Science.

At the recent meeting of the American Scientific Association at Chicago, a committee was appointed to choose a place of meeting for next year. Professor William P. Blake, of California, suggested that the next meeting should be held in the city of San Francisco, California. He said, in making the suggestion, that he did not assume to be authorized to speak for the people of California, but he ventured to say that if the Association would honor the Pacific Coast with its presence, it would be enthusiastically received by the citizens of California, and with a generous hospitality equal to that heretofore extended to the Association, and even equal to that experienced in Chicago. He wished the members of the Association to know from experience, the high appreciation which the people of the Pacific Coast have for science. The probable early completion of the great railway across the continent, at about the time of the next meeting, would afford a fitting opportunity to visit that remote portion of the United States, and he did not doubt that the liberal and enlightened men who control the roads, in the West and the East, would extend all facilities to the members for the transit.

The suggestion was received with applause, and Dr. B. A. Gould, the President, remarked that if the kindness and hospitality received by the Association increased as the square of the distance westward, the members would have a pretty good time of it.

Although the proposition met with great favor, the fear that the Pacific Railway might not be completed in season, and the absence of any direct invitation to visit San Francisco, while the city of Salem, Mass., wished to receive the Association there, caused the committee to recommend Salem as the next place of meeting, and this was adopted. The meeting will be held during the last week in August, so as to give the astronomers an opportunity to see the great solar eclipse, and then report the results at the meeting.

OLYMPIC CLUB.—The following gentlemen were elected last night as officers of this Club for the ensuing year: For President, John McComb; for Vice-President, T. R. Butler; for Treasurer, H. B. Russ; for Secretary, D. A. Carpenter; for Leader, W. S. Lawton; for Directors—C. A. Bennett, G. H. Strong, G. W. Ramage, and A. A. Son.

CHICK & BROOKS, at No. 834 Market street, are active dealers in stoves, hardware, lamps, crockery, glass and plated ware, which they offer to sell very reasonably. They keep well up with the times, and will give you the latest improvements in their line of goods at just as low prices as you would pay for an inferior article elsewhere.

WELL APPOINTED.—Mr. Winship, who has so thoroughly and systematically superintended the machinery department of the Mechanics' Fair, has received a similar appointment at the hands of the Managers of the State Fair, which opens next Wednesday, at Sacramento.

THE handsome little model exhibited at our stand in the Pavilion, represents the design of the steam yacht, for which Detrick & Eckart's balanced oscillating engine is intended. Both are neat little affairs, well designed for each other, and a credit to the enterprising inventors.

"SWEETT & GANSBY, house and sign painters, oil and color merchants," are the words upon an unassuming but well executed sign card in the Pavilion, although it but partially advertises to strangers this respectable firm.

CONUNDRUM.—What is the best thing to improve the eyesight? Give it up. Muller's Brazilian Pebble Spectacles, 205 Montgomery street. *

Small's Improved Planer.

In one corner of the machinery department, next to the glass blowers, is located an unpretending machine, which is apt to be passed by, as too common in appearance to be worthy of examination. And yet it represents the real spirit of California invention, and the progress which is placing our State in the front ranks in the march of mechanical progress.

It is only recently that Isaac H. Small, machinist, corner of Market and Beale streets, commenced making a specialty of wood-working machinery, and now he is turning out full size planing machines, which are an improvement on the Woodworth planer, and which give much better satisfaction to those who have used them. His planer at the Fair, to which we allude, is adapted to planing boards or timber, from ¼ of an inch in thickness and one in width, to 10 inches thickness and 24 inches wide. It is also suited to making moldings of various forms of patterns, giving it a wider range of work than any other machine of this class. It has a wrought iron slotted head, which is adjustable to a larger variety of different size and style of tools. The rolls rise higher, quicker, and more easily than in the common planer. Mr. Small's experience gives him the advantage of enabling him to suit his machines to the quality of wood to be operated upon, and the class of work required to be done on this coast.

It is a correct policy that home manufactures should be patronised, even at a seeming sacrifice to the purchaser; but when a better home article is offered than any imported, and at the same price, or for less, it is worse than bad in practice, and short-sighted in principle, to favor the latter. These machines are sold for $200 less than those imported, and are warranted. The weight is 4,500 pounds.

A PRACTICAL GUIDE FOR THE PERFUMER, being a new treatise on perfumery the most favorable to beauty without being injurious to the health; comprising a description of the substances used in perfumery and the formulæ of more than one thousand preparations, such as cosmetics, perfumed oils, both powders, waters, extracts, tinctures, infusions, spirits, etc.; by Prof. H. Dussance, chemist. A. Roman & Co.

Perfumery has advanced, in modern times, to a prominent position amongst the arts. Organic chemistry has lifted it out of charletanry, and placed it amongst the prominent and useful developments of civilization. How characteristic and vivid are the associations frequently brought back to us by some long forgotten perfume, which reminds us unawares of a train of occurrences and feelings of the past. Not only the perfumer and manufacturer will find such a book as this valuable, but the student, and producer, in a new country like ours, may derive hints of knowledge whose power shall consist in solid financial profit.

THE FIRST IRON produced on the Pacific Slope, was made at Oswego, Oregon, by the Oregon Iron Company, who are now successfully manufacturing and shipping iron. These works are the first representatives of a great interest which is bound to develop on this coast. A few samples of this ore, and manufactured iron, are exhibited on our desk in the Pavilion. Another season we hope to see them fully represented.

INGENIOUS AND VALUABLE.—B. F. Barker's patent concealed door spring and double reversible butt are two as meritorious inventions as any exhibited in the Fair. Both emanated from the active brains of an old Californian, who we hope will, ere long, be richly rewarded—as he deserves to be. These inventions will be seen in the hardware section of the Pavilion.

SAVING OF PYRITES AND RUSTY GOLD.—Allen Oliver, Esq., of Jamestown, Tuolumne County, has invented a machine for saving sulphurets, and rusty gold that will not amalgamate. A model has been constructed and is said to work "to a charm."

CITY AND COUNTRY REAL ESTATE.—The activity which prevailed in San Francisco real estate transactions a few months ago has subsided, and speculation has transferred itself to the purchase of Government lands in the interior, and Mexican ranches in the coast ranges and southern counties.

WANTED—At this office, the postoffice address of Enraght Massey, late of Gold Hill, Nevada.

NOTICE.—Persons interested in locating Mineral Lands in California or Nevada, will do well to observe the advertisement of N. Wescoatt, S. & M. E., in another column.

SAVE YOUR TEETH.—Drs. Jossup & Beers, over Tucker's Jewelry store, are now making a specialty of filling the fangs of dead Teeth, and building up broken crowns with *pure gold*—thus restoring them to their original usefulness and beauty. They are also using Nitrous Oxide for the painless extraction of Teeth, when so desired—the only absolutely safe anæsthetic ever discovered. In breathing it, it acts as a gentle stimulant, without undue excitement,—the sensation produced being truly delightful, the effect upon the lungs healthful, and in its results positively free from all danger. Prepared and administered daily at the Dental Rooms of Messrs. JESSUP & BEERS, corner Montgomery and Sutter streets, San Francisco. 16v16tf

IT
will heal
old sores, piles,
ulcers, cancers,
salt rheum, and break-
ing out on any part of the
body, and also removes pain
of every name or nature instantly. It is a harmless liquid, and leaves
no smart or stain, and is called Moore's
Pain Paint. For catarrh and colds in the
head, Moore's catarrh remedy affords a safe,
sure and speedy cure. Both remedies sold
by druggists everywhere, and at Moore's
office, 652 Market street, northeast
corner of Kearny, where all pain
is instantly removed, free
of cost, as hundreds can
now testify from ac-
tual tests.
8v17-3m

WHERE TO ADVERTISE.—The attention of traders and mill machinists is called to the fact that the *Mountain Messenger*, of Downieville, Sierra County, possesses many special advantages as an advertising medium over a majority of the interior press, it being the only public journal published within a radius of sixty miles, in the richest and most populous mining sections of the State. Its weekly edition is double the average of country papers, being without the range of large dailies, and having no competition at home. Its local columns afford many items for our city cotemporaries, while its rates of advertising are reasonably low. 10v17tf

NORTH AMERICA
Life Insurance Company.

Usual Restrictions on Occupation and Travel
ABOLISHED!

Policies of this Company are **guaranteed** by the State of New York, which is true of no other Company on this Coast.

The most Responsible and Liberal Company in the World!

J. A. EATON & CO.,
Managers Pacific Branch, 302 Montgomery st.
20v14nr9p SAN FRANCISCO.

REBELLIOUS ORES.

Parties interested in the treatment of
REBELLIOUS GOLD OR SILVER
ORES
—ARE INFORMED THAT THE—
Hagan Furnace Process
Is now in successful operation at the
ENTERPRISE MINE,
NEAR CISCO,
And they are respectfully invited to examine the working of the same.

For particulars, inquire of W. A. WILLIAMS, Superintendent, at the mine, or address
PACIFIC ORE COMPANY,
P. O. Box 1019, San Francisco.
September 11, 1868. 11v17-2w

CARPETS, OIL CLOTHS, DRAPERIES,
SHADES, Etc., Etc.

LOUIS F. KNIGHT,
542 California St., east side of Kearny,
SAN FRANCISCO.

I can offer from the largest and best assorted stock in the city anything in our line.

AT PRICES TO SUIT ALL.
FURNITURE AND MATTRESSES
Made to order.
All kinds of upholstering executed with neatness and dispatch. 9v17

REGISTER YOUR LETTERS containing money addressed to us, or we will not be responsible. Remittances by Express must be in packages, prepaid. When practicable, it is best to remit by draft, or order, on some San Francisco bank or firm

Builders' Insurance Company—OFFICE IN THE BUILDING OF THE CALIFORNIA SAVINGS BANK, California street, one door from Sansome street.
☞ FIRE AND MARINE INSURANCE. 10v14t9pqr

Support Home Manufactures.

California Pioneer Fuse
MANUFACTURING COMPANY,
MANUFACTURERS OF
HOSE AND TAPE FUSE,
A New and Superior Article for Blasting in very wet ground, or under water.

Great difficulty has heretofore been experienced by miners, and others in the use of Fuse, which has been subjected to deterioration from exposure to dampness during transportation, or during the great length of time which has passed between its manufacture and use. In addition to great painstaking in the manufacture of the California-made Fuse, the above and many similar objections are entirely obviated, and the operator can always depend with certainty upon the burning of his fuse.

It is often the case that extra lengths are required, as exploding tunnels, etc., longer than is furnished in the imported article. Fuse of every desired length or size can be made to especial order, at the above manufactory.

Manufactory, - - - - Potrero, San Francisco.
JOS. POWNING, Sec'y. JAS. EVA, Supt.
17v16-9ptf

PACIFIC
Rolling Mill and Forge Co.,
SAN FRANCISCO, CAL.
Established for the Manufacture of
RAILROAD AND OTHER IRON
—AND—
Every Variety of Shafting,
Embracing ALL SIZES of
Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames
—ALSO—
HAMMERED IRON
Of every description and size.
☞ Orders addressed to PACIFIC ROLLING MILL and FORGE CO., Post Office, San Francisco, Cal., will receive prompt attention.
☞ The highest price paid for Scrap Iron. 9v14-3m9p

A Book for Every Miner and Scientific Man.
JUST PUBLISHED,
KUSTEL'S NEW WORK,
CONCENTRATION
Of all kinds of Ores, and the
CHLORINATION PROCESS,
For Gold-Bearing Sulphurets, Arseniurets, and Gold and Silver Ores generally.

Price, - - - - - $7.50

A liberal discount to the Trade. For sale by the Booksellers Sent to any part of the United States, postage paid, on receipt of the price. Address,
DEWEY & CO., Publishers,
Office of the Mining and Scientific Press, 414 Clay street,
16v1tf SAN FRANCISCO.

NOTICE.

On and after this date, all parties on the Pacific coast manufacturing, using, or selling
Dunbar's Patent Piston Packing,
must obtain a License for the same from the undersigned, or they will be subject to the penalties of the law.
H. S. SMITH,
Ætna Iron Works,
San Francisco, August 15th, 1868. 7v17-3m

WE ARE NOW OFFERING
OUR IMMENSE STOCK
—OF—
Fine Custom Made Clothing
—AND—
Gents' Furnishing Goods
AT PRICES THAT DEFY COMPETITION.
Our Stock of Clothing Consists of
ALL THE LATEST STYLES
BOTH OF MATERIAL AND FINISH.
A Large Assortment of
Trunks, Valises, Carpet Bags, Blankets, Etc.,
AT EXTREMELY LOW PRICES.
J. R. MEAD & CO.,
8v10 Cor. of Washington and Sansome streets.

Machinists and Foundries.

PALMER, KNOX & CO.,

Golden State Iron Works,

Nos. 19, 21, 23 and 25 First Street,
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF

MACHINERY,

STEAM ENGINES AND QUARTZ MILLS

DUNBAR'S IMPROVED

Self-Adjusting Piston Packing,

Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

WHEELER & RANDALL'S

NEW GRINDER AND AMALGAMATOR

HEPBURN & PETERSON'S

AMALGAMATOR AND SEPARATOR,

Knox's Amalgamators,

WITH PALMER'S PATENT STEAM CHEST,

Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continual working.

Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10qy-tf

WILLAMETTE IRON WORKS,
PORTLAND, OREGON.

Steam Engines, Boilers,

SAW AND GRIST MILLS,

MINING MACHINERY, WROUGHT IRON SHUTTER WORK, AND BLACKSMITHING IN GENERAL.

Corner North-Front and E streets,

18v13-1y One block north of Couch's Wharf.

UNION IRON WORKS,
Sacramento.

WILLIAMS, ROOT & NEILSON,

MANUFACTURERS OF

CROSS' PATENT BOILER FEEDER,

STEAM ENGINES, BOILERS,

And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old Cylinders, manufactured to order.

Front Street, between N and O streets,

14v11 SACRAMENTO CITY

GLOBE

Foundry and Machine Shop,

STOCKTON, CAL.

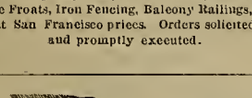
KEEP, BLAKE & CO.,

MANUFACTURERS OF

Quartz, Saw and Grist Mill Irons, Steam Engines, Horse Powers,

Mining and Irrigating Pumps, Car Wheels, Derrick Irons, House Fronts, Iron Fencing, Baleony Railings, etc., at San Francisco prices. Orders solicited and promptly executed.

13v13-1y



JAMES MACKEN,

COPPERSMITH,

226 Fremont st., bet. Howard & Folsom.

All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to.

13v11

GEORGE T. PRACY,

MACHINE WORKS,

Nos 109 and 111 Mission street, between Main and Spear, SAN FRANCISCO.

STEAM ENGINE, FLOUR AND SAW MILL

And Quartz Machinery, Printing Presses,

—AND—

MACHINERY OF EVERY DESCRIPTION MADE AND REPAIRED.

☞Special attention paid to Repairing.☜ qy-3

CITY IRON WORKS COMPANY,

CLERC & CO.,

IRON FOUNDERS,

Steam Engine Builders, and Makers of all kinds of Machinery,

6v16qr No. 28 Fremont street, San Francisco.

To Foundrymen and Blacksmiths.

LUMP LEHIGH AND CUMBERLAND COAL, IN ANY quantity, sacked and shipped to any part of the country, by JAS. R. DOYLE, Coal Dealer,
413 and 415 Pacific street, bet. Sansome and Montgomery, San Francisco.

24v15-3m

Miners' Foundry

—AND—

MACHINE WORKS

Nos. 245 to 255 First Street,

San Francisco.

HOWLAND, ANGELL & CO.,

PROPRIETORS,

Manufacturers of Machinery for

QUARTZ MILLS. FLOUR MILLS,
SAW MILLS, SUGAR MILLS,
POWDER MILLS, PAPER MILLS

Steam Engines of all Kinds.
Amalgamators of all Kinds.

MINING PUMPS, HOISTING WORKS
OIL WELL TOOLS, ROCK BREAKERS,

—AND—

Machinery and Castings of all kinds, either of Iron or Brass.

Boilers and Sheet Iron Work in all its Branches.

Shoes and Dies of White Iron, manufactured for and imported by us expressly for this purpose, and will last 25 per cent. longer than any other made on this coast.

Russia Iron Screens, of any degree of fineness. We are the only manufacturers on this coast of the "Hicks Engine," the most compact, simple in construction, and durable, of any Engine in use.

W. H. HOWLAND, H. B. ANGELL,
13v14-qr **CYRUS PALMER.**

FULTON

Foundry and Iron Works.

HINCKLEY & CO.,

MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Hayes' Improved Steam Pump, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.

N. E. corner of Tehama and Fremont streets, above Howard street, San Francisco. 3-qy

McAFEE, SPIERS & CO.,

BOILER MAKERS

AND GENERAL MACHINISTS,

Howard st, between Fremont and Beale, San Francisco.

Fine or Tubular **Boilers**, with plain circular or spiral courses. Upright Pine or Tubular Boilers, Locomotive and and Marine Boilers, and Wrought Iron Tanks of every description.

Hydraulic Pipe supplied at reasonable rates. In ordering, give the quantity of water to be supplied, light of the full, and total length of pipe, so as to enable the firm to determine the diameter of the pipe and thickness of iron to be used.

Repairs.—Boilers, Smoke Stacks, Pipes, etc., put in repair with promptness.

To Boiler Makers and Machinists in the Interior.—The firm is prepared to furnish estimates of Boilers, supply new Heads, drilled and punched, and attend to the selection and forwarding of Iron for Boilers, Pipes and other purposes.

Plans, Drawings and Specifications.—The firm is prepared to make out Plans and Specifications, receive estimates, and superintend the Erection of any Machinery that may be entrusted to their care.

To Inventors.—The firm is prepared to assist in developing the plans of those who have the ideas, but not the practical experience necessary to put the same in form, by making Drawings of their inventions, giving them the benefit of their practical knowledge in the construction of Machinery, and attending to the manufacture and introduction of their inventions. 1v16tf

J. NEWSHAM. J. BIGWOOD.

SOUTH BEACH IRON WORKS,

Near corner of King and Third streets, San Francisco.

MARINE ENGINES,

AND ALL KINDS OF

MACHINERY FORGING.

All kinds of Ship-smithing and Mill work manufactured to order. Jobbing of every description promptly attended to. All work done guaranteed. 13v14-1y

LINCOLN IRON WORKS,

No. 51 Beale st., bet. Market and Mission.

D. FOURNESS, Proprietor.

STEAM ENGINES,

Flour and Sawmills, and MACHINERY of all descriptions made and repaired at shortest notice.

☞Particular attention paid to repairing Reynold's Cut-off 5v15qr

CALIFORNIA BRASS FOUNDRY.

No. 125 First street, opposite Minna,
SAN FRANCISCO.

ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All Kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞ PRICES MODERATE. ☜

J. P. GALLAGHER. J. H. WEED. V. KINGWELL.
9v13-1y

WM. HAWKINS. T. G. CANTRELL.

HAWKINS & CANTRELL,

MACHINE WORKS,

Nos. 210 and 212 Beale street, between Howard and Folsom streets, San Francisco.

Manufacturers of STEAM ENGINES and all kinds of Mill and Mining Machinery. N. B.—Jobbing and Repairing done with dispatch. 1v17 3m

IRA P. RANKIN. A. P. BRAYTON. A. C. AUSTIN.

Pacific Iron Works.

First and Fremont Streets,
SAN FRANCISCO.

Having been established since 1851, we have accumulated a very large variety of Gear and other Patterns, which, with our superior tools and appliances, give us facilities for doing first class work unequaled on the Pacific Coast.

Among other things, we manufacture the following:

STEAM ENGINES,

Horizontal and Vertical, for either Stationary or Marine use.

BOILERS—High and Low Pressure,

Pump, Pipe and Sheet Iron Work of every kind.

Quartz Mill Work,

Including High and Low Mortars, for wet or dry crushing; Furnace Irons for Roasting Ores; Freiberg Barrels; Varney's and Wheeler's Amalgamating Pans and Settlers; Stamp Shoes and Dies of best White Iron; Russia Iron Screens, etc., etc.

Flour Mill, Saw Mill and Sugar Mill Work in every variety; Pumping and Hoisting Machinery; Hansbrow's Patent Challenge Pump, for Domestic, Ship and Mining use—the most approved and successful Pump manufactured.

Castings of every description, Iron and Brass.

We would call especial attention to "Wright's Patent Variable Cut-off Engines," of which we are the sole manufacturers on the Pacific Coast, under license from the Woodruff & Beach Co., Hartford, Ct. As a simple, effective, FUEL SAVING, first-class Engine, this is without doubt, the best Engine made in the United States.

Orders promptly attended to. Prices as low as possible for first class work, and we intend to do no other.

GODDARD & CO.

San Francisco, May 1, 1868. 18v16tf

Phœnix Iron Works.



JONATHAN KITTREDGE, Proprietor,

Nos. 18 and 20 Fremont street, near Market,

MANUFACTURER OF

Fire-Proof Doors, Shutters,

Wrought Iron Girders, and all kinds of Housesmith work, Bridge and Prison Work;

BANK VAULTS AND MONITOR SAFES,

FORGING AND MACHINE WORK.

Agency for the ISHAM KEY REGISTER BANK AND SAFE LOCK, the only first class Lock in the United States.

1v17tf

THOMPSON BROTHERS,

EUREKA FOUNDRY,

129 and 131 Beale street, between Mission and Howard, San Francisco.

LIGHT AND HEAVY CASTINGS,

of every description, made to order. 24v16qr

REESE LLEWELLYN. STEPHEN FLETCHER.

LLEWELLYN & FLETCHER,

COLUMBIA FOUNDRY,

133 and 135 Beale street, near Howard, San Francisco, Manufacturers of **House Fronts, Sash Weights,** and Machinery Castings of all kinds. 24v16qr

EMPIRE FOUNDRY,

294 Howard street, near Beale, San Francisco.

CASTINGS OF EVERY DESCRIPTION

Made to order with neatness and dispatch. Particular attention given to the manufacture of SHIPS' IRONS.

5v17qr S. A. YOUSE, Proprietor.

Oakland Point Foundry,

Near Oakland Point R. R. Station,

MANUFACTURES

House Fronts, Sash Weights,

Ranges, Light and Heavy Castings of all kinds.

Having this day dissolved partnership with G. A. Walker, the business will hereafter be conducted in the name of the undersigned.

☞All orders promptly attended to.

MARTIN T. MEAD.

July 16, 1868. 3v17-1m

The Risdon Iron & Locomotive Works.

Incorporated, April 30, 1868. Capital, $1,000,000.

Location of Works, Corner Beale and Howard streets, SAN FRANCISCO.

Successors to Pacific Mail S. S. Co. Works at Benicia, Coffey & Risdon, and Devoe, Dinsmore & Co., San Francisco.

Steam Engine Builders, Boiler Makers,

MACHINISTS AND FOUNDRYMEN.

All work in their line attended to with promptness and dispatch. Directors—S. F. Butterworth, Lloyd Tevis, Jas. Pollock, Ben. Holladay, Chas. E. McLane, John N. Risdon, Joseph Moore. John N. Risdon, President; Joseph Moore, Vice President and Superintendent; Chas. E. McLane, Treasurer; Lewis R. Mead, Secretary. Lewis Coffey, Superintendent Boiler Works. 8v17-qy

Postage.—The postage on the MINING AND SCIENTIFIC PRESS to any portion of the United States is twenty cents per annum, or five cents per quarter, payable in advance at the Post Office delivering the paper. Postage free in the city and county. Foreign postage (with few exceptions) two cents per copy, prepaid. To Bremen and the German States (marked via Bremen and Hamburg line), three cents per copy, prepaid. Single copies to any address in the United States, two cents.

JAPANESE METHOD OF MINING COAL.—Mr. Locock, in a recent letter to the British Foreign Office says: "I had an opportunity while there (mines near Hisgo, Japan,) of visiting the works—if, indeed, they deserve the name—which have been undertaken for procuring the coal. Here and there, where the coal or shale which had lain over it had been seen cropping out from the hillside a horizontal passage had been run in, never more than twenty-five feet, and often only ten or twelve feet in length. In some of these burrows two or three men, cronched to the ground, were at work picking away at the sides with pointed hammers, and sorting each little piece of coal with their hands before throwing it into one heap or another, according to its quality. The Japanese Government are not insensible to the advantages to be derived from a more scientific working of the coal of Hisgo, and it is not impossible we may soon see a regular coal mine opened, that is worked by European machinery."

EARTHQUAKE ALARM.—The Japanese have discovered, it is said, that a few seconds previous to an earthquake the magnet temporarily loses its power. They have ingeniously constructed a light frame supporting a horse-shoe magnet, beneath which is a cup of bell-metal; to the armature is attached a weight, so that upon the magnet becoming paralyzed the weight drops, and, striking the cup, gives the alarm. Every one in the house then seeks the open air for safety.

HISTORICAL.—The treaty with China has been duly ratified. The two friendly nations lie on opposite shores of the Pacific, one is the youngest and most powerful, the other the oldest and most populous, in the world.

GEO. E. ROGERS,

(Successor to O. W. Bell.)

ASSAYER,

512 California st., San Francisco.

J. A. MARS, Assayer.

Ores carefully Assayed. Gold and Silver Ores worked. 23v16-qr10pnr

International Hotel,

JACKSON STREET

BETWEEN MONTGOMERY AND KEARNY STS.,

SAN FRANCISCO, CAL.

THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The Beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.

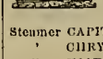
Prices varying from $1 50 to $2 per day for Board and Room.

FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.

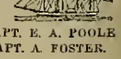
☞Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents

21v12 F. E. WEYGANT, Proprietor.

California Steam Navigation



COMPANY.



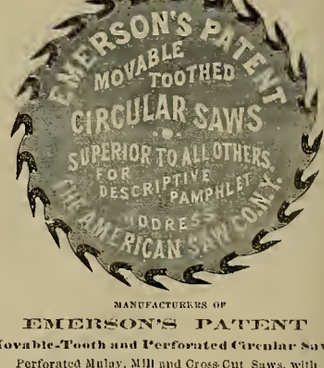
Steamer CAPITAL.....CAPT. E. A. POOLE
" CHRYSOPOLIS.....CAPT. A. FOSTER.
" YOSEMITE.....
" CORNELIA.....CAPT. W. BROMLEY
" JULIA.....CAPT. E. CONCKLIN.

Two of the above steamers leave BROADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted), one for Sacramento and one for Stockton, there for Sacramento connecting with light-draft steamers for Marysville, Colusa, Chico, and Red Bluff.

Office of the Company, northeast corner of Front and Jackson streets.

B. M. HARTSHORNE,
13v12 **President.**

American Saw Company.



MANUFACTURERS OF

EMERSON'S PATENT

Movable-Tooth and Perforated Circular Saws,

Perforated Mulay, Mill and Cross-Cut Saws, with Adjustable Sockets.

SAW-GUMMERS, SWAGES, CANT DOGS,

Etc., have established an office for the sale of the above articles, at

No. 606 Front street, San Francisco.

☞Descriptive Pamphlets will be forwarded to any one 5v17tf

RAILROAD BUILDING ACTIVITY.—The San José road extension to Gilroy, thirty miles in length, will be completed, it is promised, by December next. This road is prosperous, and the country and towns through which it passes are in a highly flourishing condition.

Subscriptions are being received for the building of a railroad from Anaheim to Buenaventuras, in Los Angeles County, a distance of nearly 50 miles.

The railroad from Vallejo to Sacramento is now completed for 46 miles, to Davisville, which is within 14 miles of Sacramento. The portion yet to be built, will be on piles, because the country is subject to overflow in winter, to depths of three to fifteen feet.

Several railroads are under active headway in Napa, Solano and Marin counties. The commencement of work on the junction road from Harrisburg to Suscol, to connect the Napa Valley with the California Pacific road, is announced; and a contract has been made for the construction of a road from Davisville to Woodland this year.

A contract has been made for grading ten miles of the San Francisco and Humboldt Bay Railroad, eastward from Petaluma, before the 1st of December, but the Superintendent expresses the belief that the entire distance to Santa Rosa, sixteen miles, can be completed before that time. Arrangements are being made to purchase forty miles of iron.

The Stockton *Gazette* says that a paper is being circulated among the citizens for subscriptions to a railroad from Stockton to Paradise Valley. It will be the first step toward opening up the Tulare region, and will pay from the start.

HOW TO ACQUIRE AND ENLIST CAPITAL.—Friedley, the "retired merchant," says: "Capital is a general term for the accumulated stock of former labor. Its father is Labor and its mother Economy. The economy that leads to wealth implies a judicious use and profitable investment of savings. The rewards of labor, and the faculty for the acquisition of capital, are increased by the possession of some peculiar knowledge or skill. A man's pecuniary value may be said to augment in exact proportion to the amount of his effective intelligence, superadded to ordinary physical power. The demand for educated labor, in progressive countries, so far exceeds the supply that it may, to a certain extent, dictate its rewards. Men, animals and machines, are everywhere working fruitlessly or unprofitably for want of suitable persons to direct their movements; enterprises of the first magnitude languish for want of competent managers; and regions where nature has been most bounteous in her gifts are yet comparatively a wilderness, because the arts and mechanism of civilization have not been introduced. The accumulation of capital may be accelerated by *associating with personal labor some responsibility*. Capitalists, in general, are timid, and desire to protect themselves against extraordinary expenses. It is in the nature of capital to surround itself with safeguards, and it willingly pays a premium for guarantees."

STEAM CARS FOR STREET RAILWAYS.—The Brooklyn City Railroad Company have brought out a car worked by a steam engine, the furnace of which is heated with kerosene. The fire is started by a small bed of anthracite coal, which lasts all day without replenishing, as it is used merely to act as a sort of wick for the kerosene oil, which is the real fuel. There is a tank of kerosene at the point on the platform furthest from the fire. From this a small pipe leads to the fire, and a small quantity of kerosene is squirted in occasionally. No cinders or smoke are generated, but sufficient heat is evolved, the patentee claims, to keep up steam constantly in the engine with a very trifling expenditure of oil. The *Artisan* says that limited trials of this dummy have been successful.

DECISIONS WITH REGARD TO PREMIUMS.—The reports of the committees in classes 13, 16, sec. 1, 17, 22, 24, 29 and 30, sec. 1 and sec. 2, have been handed in at the Directors' room in the Pavilion, and are placed in file to remain with such as may continue to come in till Friday evening, when the seals will be broken and results announced.

The awards of premiums will be formally and publically made in the Pavilion on Saturday, at 7 o'clock P.M., and will occupy a good portion of the evening. Probably a short speech will accompany the delivery of the Institute Medal.

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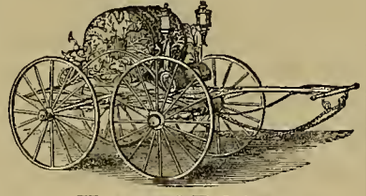
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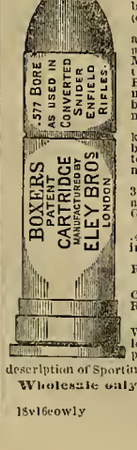
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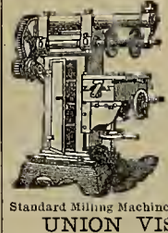
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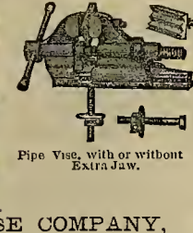
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Having returned to Yuba County, Cal., after an absence of several years in the State of Nevada and the Eastern States, will attend to all business in his line in this State, or the State of Nevada, or adjoining Territories.

All orders will be attended to with dispatch, and satisfaction given.

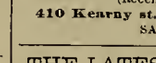
REFERENCES:

Judges Hardy and Quint, San Francisco.
Hon. C. E. DeLong, or Judge Mesick, Virginia City.
Col N. E. Whiteside, Marysville.
Judge Filkins, "
Col F. L. Hatch, "
L. J. Asbford, "

Office at Smartsville, Yuba County, Cal.
17tf

DR. GEORGE W. ROGERS,
PHYSICIAN, SURGEON & ACCOUCHER,
(Recently from Mazatlan,)
410 Kearny st., bet. California and Pine,
SAN FRANCISCO. 1v17-3m

THE LATEST IMPROVEMENT
In Dentistry.



PATENTED DECEMBER 3d, 1867, by DR. G. W. COOL. The right of San Francisco reserved for his own use. The nature of his improvement consists in lining the entire concave surface with fine gold; it makes the plate twice as strong and one-third thinner than the common vulcanite plate. This work has given satisfaction in every case. Please call at No. 14 Third street, near Market, and see specimens. All work warranted as fine as the specimens. Prices reasonable. 2v16 3m

---

JAMES M. TAYLOR,
Attorney and Counsellor at Law,
Court Block, 636 Clay Street
SAN FRANCISCO.
2v15-1qy

Edward and John A. Stanly & A. W. Blair
ATTORNEYS
AND COUNSELORS AT LAW,
Southeast corner of California and Sansome streets, over the Bank of British Columbia. 19v16-3m

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Pacific Mail Steamship Co's
STEAMSHIPS FOR
NEW YORK, JAPAN AND CHINA.



LEAVE WHARF, CORNER OF FIRST AND Brannan streets, at **11** o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPINWALL for NEW YORK.

On the **6th, 14th, 22d** and **30th** of every month.

Steamer leaving San Francisco on the 6th touches at Manzanillo. All touch at Acapulco.

Departure of the 14th is expected to connect with the French Trans-Atlantic Co.'s steamer for St. Nazaire, and English steamer for South America. Through tickets can be obtained.

Departure of 14th is expected to connect with English steamer for Southampton and South America, and Australia, and P. R. R. Co's steamer for Central America. Through tickets can be obtained.

STEAMERS FOR SEPTEMBER, 1868.

The following Steamships will be dispatched on dates as given below:

September 5th—GOLDEN CITY Captain E. S Farnsworth, Connecting with ALASKA, Capt. Gray
September 14th—SACRAMENTO.....Capt. W. H. Parker, Connecting with OCEAN QUEEN, Capt. King.
September 22d—MONTANA.....Capt. J. M Cavarly, Connecting with HENRY CHAUNCEY, Capt. Conner.
September 30th—CONSTITUTION..Captain W. H. Hudson, Connecting with ARIZONA, Capt. Maury.

Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult.

An experienced Surgeon on board. Medicine and attendance free.

These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.

Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—if desired an amount of £10 to £20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England.

The Steamship JAPAN, Capt. Geo. E. Lane, will be dispatched on MONDAY, August 3d, at 12 o'clock, noon, from wharf, corner of First and Brannan streets, for YOKOHAMA and HONGKONG, connecting with the COSTA RICA for SHANGHAI.

For freight or passage apply at the office, No. 1 Battery street, corner of Sacramento and Leidesdorff streets.

For freight or passage and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets.

OLIVER ELDRIDGE, Agent.

Pacific Powder Mills.

SUPERIOR BLASTING AND SPORTING GUNPOWDER

Black Diamond, in 1lb canisters.
do do in ½lb canisters.
do do in ½ kegs.
Hunter's Pride, in 1lb canisters.
do do in ½lb canisters.
do do in ¼ kegs.
do do in ½ kegs.
Pacific Mills River Shooting, in 1lb canisters.
do do do in ½lb canisters.
do do do in ¼ kegs.
do do do in ½ kegs.
do do do in 25lb kegs.
Pacific Mills Rifle, in 1lb canisters.
do do do in ½lb canisters.
do do in ¼ kegs.
do do in ½ kegs.
do do in 25lb kegs.

Blasting and Mining Powder $2 50 per keg.
Safety Fuse and Shot for sale by
HAYWARD & COLEMAN, Agents.
24v15-3m 414 Front street, San Francisco.

PATENT OFFICE REPORTS, from 1843 to 1847, MECHANICAL are wanted for duplicate copies at this office. Parties having them for sale will please state price, and address DEWEY & CO., Mining and Scientific Press o San Francisco.

Progress.

Six years ago the author of "Resources of California" wrote: "We now import all our hardware, glassware, porcelain, stationery, silks, cottons, fine woolen goods, and nearly all our clothing, boots, shoes, and fine furniture, and many of our agricultural implements, mechanical tools, wagons and carriages." * * "We have no secondary coal in the State, and cannot expect to smelt iron ore, or to make cutlery or fine articles of hardware. Some cotton is produced on the shores of China and is now shipped to England; perhaps we may at some future day be able to import it raw and manufacture it here, but of this there is no certainty. Now, coal, iron and cotton are the raw materials for a large share of the most profitable manufactures of our age." * * "There are two great difficulties in the way of the productive industry of California, the high prices of labor and the high rates of interest."

Those who have attended the Mechanics' Institute Fair of 1868—or read the MINING AND SCIENTIFIC PRESS—will note for themselves the changes that have taken place within these few years, being sufficiently remarkable and obvious not to require any comment. The times have manifestly changed, and are changing still; but like the canoeman who is running the rapids, we see only the whirl of elements that are moving with us, and we do not realize the exciting precipitancy and grandeur of the situation, as it is witnessed breathlessly by the occupant of a stationary standpoint on shore.

THE NEW ATLANTIC CABLE TO BREST.—The *Moniteur* has confirmed in an official manner the concession of the right of laying down a submarine telegraph cable between Brest and the United States, and a corresponding concession has been granted by the State of New York. The cable will be laid direct from Brest to New York city. This concession is understood to be an exclusive one—on the French side, at any rate—for twenty years.

The grounds upon which the projectors have found favor with the French and New York State Governments has been, chiefly, that the proposed cable will obviate the circuity and delay incident to the present line, and will also lessen the existing liability to casualties. By the only route we now have, not less than four submarine cables have to be employed, while the electric fluid has to perform four land journeys also before a message can be sent from the continent of Europe to New York.

Ocean telegraphy has been carried to such perfection that there is more fear of mishap by land than by sea; and, in point of fact, during the last two winters, when we have several times been alarmed by the stoppage of messages, the explanation has in each case been that storms had blown down the land telegraphs, sometimes on the American mainland. As the capital it will represent will, it is stated, be only £1,000,000, and as the working expenses, with only two stations (at Brest and at New York), ought to be very small, it is probable that this project will bring the luxury of telegraphing across the Atlantic within the reach of persons of very moderate means. It is understood that the new Atlantic Cable will be ready for laying next June.

THE best "signs of the times" are those made by Mr. F. Mansell, No. 422 California street. He is an adept at sign painting, having had large experience. The MINING AND SCIENTIFIC PRESS office has been supplied with and embellished by Mansell's fine touches for the last five years, and we can say his work wears well to the eye and in matter of fact.

ROCKY MOUNTAIN AURIFEROUS REGULUS. About 30 tons of copper regulus were delivered at New York, recently, without transfer of cars, from Omaha, in twelve days, being brought from near the mines of the Boston and Colorado Mining Company, by the Pacific road. It was transhipped from New York to Wales, where the regulus will be made to yield, about 80 or 85 per cent. of pure copper.

ACADEMY OF SCIENCES.—The proceedings of the California Academy of Sciences, as published in the MINING AND SCIENTIFIC PRESS, are regularly quoted by many of the English and Continental scientific and technical journals. There has been no meeting for several weeks.

Art Photography.

The exhibition of photographs by Bradley & Rulofson, is worthy of study in a different light from most ordinary productions of the photographic studio. As everybody will have noticed, there is a successful combination accomplished of two photographic pictures in one, whereby the individuals photographed are placed into a different scene from the surroundings of the gallery. This is the advancement of photography as an art, which entitles it to our respect, since it presents additional means for instruction, and the gratification of a refined taste. It is a combination of higher art with photography.

Some of the marine pictures exhibited are remarkably successful. A fine sea piece from some master of marine effects is taken, and the sitter is placed on board of a yacht with all the apparent results of an instantaneous photograph taken from nature, where the artist must have been a sea gull to have obtained his view. In one of the pictures a sturdy old Commodore is brought ashore in view of Yerba Buena,—a real photograph of the water and island and some ships,—by one of Bradley & Rulofson's operators in their own boat; that portion of the picture having been taken in the gallery. Some of the mystic photographs also evince much ingenuity and taste.

The display of Bradley & Rulofson has always been a leading one at previous Fairs in that department, and they have invariably been amongst the first to introduce new and attractive features to meet the desires and tastes of the public. Mr. Rulofson especially, has made the artistic applications of photography a study; and success in obtaining some special or truthful effect, supposed to be beyond the skill of the ordinary photographer, appears to afford him all the satisfaction of the painter in oil, when he has placed an original idea upon canvas.

TOOL MAKING.—Amongst the constantly increasing number of manufacturers of superior tools on our coast, the establishment of Carl Hinz is represented in the exhibition by a case of very creditable molding, carving and turning tools, which the visitor would overlook, unless his attention were specially called to them. The method of using these molding tools by machinery is peculiar. Two chisels of similar shape, made to cut the form of molding desired, are attached to an upright, rapidly revolving shaft, and the wood is shoved alongside. The chisels cut successively, with such rapidity as to give the molding a smooth surface.

RETURNED.—Mr. H. T. Graves, proprietor of the California Wire Works, who has just returned from the East (where he has been for several months preparing to enlarge his stock) was serenaded on the evening of the 3d, by a number of his friends, at his residence on Mason street. Mr. Graves is one of our most enterprising manufacturers, and we are glad to note his arrival. The exhibition at the Fair from his house this year, we have already noticed as a splendid affair, but next year we shall doubtless witness new manufactures and a larger display.

CAUTION.—It would be well for those in the country who are afflicted with diseases and nervous difficulties, when they visit the city to find a doctor, to understand that there are more than one or two physicians who are successful in curing diseases if they do not belong to the Medical Institutes; and probably there would be a saving of time and money to try some one of the reformed practice before being burned, blistered and calomized; and that the *Electro-Magnetic* treatment, in some of the several forms, vapor baths, etc., is the safest, surest and best method, as applied by Dr. Benton, at Congress Hall Building, *Bush street*, San Francisco. *

PLANTATION BITTERS combine rare medicinal virtues with a delicious aroma, and a flavor grateful to the palate. It is purely vegetable, and in its composition all the requisites of science have been complied with. It is suitable for all ages and sexes. It is gentle, stimulating and soothing. All dyspeptic disorders are cured by it, and it repairs and restores nature's wasted powers. PLANTATION BITTERS are increasing daily in favor with all classes. It relieves suffering, renders life a luxury, brightens the present, and throws a hopeful light on the future. *

THE miniature garden of Mr. Woodward's, which has attracted so much attention at the Fair, will doubtless induce a large number to visit his beautiful Gardens at the corner of Valencia and Fourteenth streets, and take a view of their wonders. *

LIFE AMONG THE MORMONS AND INDIANS. This is the title of a very simple and plainly told tale, embracing the author's experience and observations during a period of eight years in Utah and along the stations of the overland stage route. The events and phases of life and character are described as recent, and if true, the book may be taken as the best available publication to convey an idea of the existing state of things up to the present time, along the line of travel where the great continental railroad will, with the present blessed year of 1868, bring on a new order of things. The author is an Englishman, who lived among the Mormons, and was evidently considered one himself; he escaped from Salt Lake finally, at the risk of his life. A great recommendation to the book is that there is no attempt made either at fine writing or at telling startling things. Facts and incidents very interesting to those who have made the overland trip, are told plainly. Published by J. A. Wilson, Sacramento; pp. 146. Price 50 cents.

AN AMERICAN INVENTION ADOPTED BY ALL NATIONS.—One of the greatest and most beneficial inventions of the nineteenth century—an invention which has had no rival for more than thirty years—an invention which has received the highest premiums at all the leading exhibitions of mechanical art throughout the United States and in foreign countries (including the great "Exposition Universelle," 1867, of Paris)—an invention which Great Britain, China and the world at large acknowledge as THE STANDARD. We refer to the Fairbanks Standard Scales, invented by Thaddeus Fairbanks, of St. Johnsbury, Vt., the present proprietor and manufacturer.

G. REUBEN, practical printer and jeweler, exhibits a sancepan cover which allows the steam to escape, but prevents anything from falling into the pan while cooking. It possesses other improvements "too numerous to mention." Patent applied for.

New Mining Advertisements.

Chiplonean Mining Company—District of Cres, Sonora, Mexico.

Notice is hereby given, that at a meeting of the Board Trustees of said Company, held on the seventh day of September, 1868, an assessment of five dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 318 California street, up-stairs.

Any stock upon which said assessment shall remain unpaid on the ninth day of October, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-sixth day of October, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary.

Office, 318 California street, up-stairs, San Francisco. se12

Diamond Copper Mining Company. Location: Rockland District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of February, 1867, an assessment of two ($2) dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, Room 40 Merchants' Exchange Building, California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the seventh day of October, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-sixth day of October, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. A. COOLIDGE, Secretary.

Office, Room 40 Merchants' Exchange Building, California street, San Francisco, Cal. sep12

Nevada County Gold Mining Company, Nevada County, California.

Notice is hereby given to the Stockholders of the Nevada County Gold Mining Company, that a meeting will be held at the office of the Company, No. 9 Merchants' Exchange, California street, San Francisco, on MONDAY, the fifth day of October, 1868, at the hour of 12 o'clock, noon, for the purpose of electing officers, and the transaction of such other business as shall come before the meeting.

[Signed] E. S. CURTIS, } Trustees and
B. WELLMAN, } Stockholders.
WM. NEWTON MEEKS, } Stockholders.
CHAS. DALSEY,
San Francisco, Sept. 9th, 1868. sep13

Rattlesnake Gold and Silver Mining Company, Brown's Valley, Yuba County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the seventh day of August, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
E Halphen	45	49	$98 00

And in accordance with law, and an order of the Board of Trustees, made on the seventh day of August, 1868, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the salerooms of J. Middleton & Son, 310 Montgomery street, San Francisco, on the twenty-eighth day of September, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN F. LOHSE, Secretary.

Office, 318 California street, San Francisco, Cal. sep12

ELECTROTYPE CUTS, ENGRAVINGS, ETC.—Our Job Printing Office is abundantly supplied with elegant engravings, ornaments, and other embellishments to suit the various branches of industry in this State

Mining Notices--Continued.

Banker Hill Quartz Mining Company. Location of Works: Near Amador, Amador County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of May, 1868, an assessment (No. 8) of ten dollars ($10) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, or to DANIEL PALMER, No. 134 State street, Boston, Massachusetts.

And whereas said assessment was not duly advertised as required by law, and as contemplated by the resolution making the levy, at a subsequent meeting of the Board of Trustees, held September 2d, 1868, it was resolved, that—

Any stock upon which said assessment shall remain unpaid on the sixth day of October, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-sixth day of October, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

WALES L. PALMER, Secretary.

Office, No. 19 First street, San Francisco, California. sep5

Chalk Mountain Blue Gravel Company.—Location of Works: Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventeenth day of August, 1868, an assessment of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the twenty third day of September, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twelfth day of October, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary.

Office, 37 New Merchants' Exchange, California street, San Francisco. au22

I. X. L. Gold and Silver Mining Company.—Location of Mine: Silver Mountain District, Alpine County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twentieth day of of August, 1868, an assessment of one dollar and fifty cents ($1.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, Pioneer Hall, Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the nineteenth day of September, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the seventh day of October, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. CROWNINSHIELD, Secretary.

Office, Pioneer Hall, Montgomery street, up stairs, San Francisco. au29

Kearsarge Mining Company, Kearsarge District, Inyo County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the fourth day of August, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificates.	No. Shares.	Amount.
Alberding, F H	44, 45, 46, 47	79	$158 00
Bliss, D	12	200	400 00
Blauvelt, W H	22	60	120 00
Grim, A K	38	206	412 00
Gray, T C	50	20	40 00
Gillig, Mott & Co	not issued	100	200 00
Gillig, Mott & Co	14	75	150 00
Gillig, John	not issued	85	170 00
Hastings, D L	36	100	200 00
Horn, A	52	78	156 00
Leet, W N	17	215	430 00
Lynch, P	19	21	42 00
McWilliams, Chas	35	100	200 00
Morgan, J	not issued	309	618 00
Sunderland, Thos	3	285	570 00
Stead, Geo	29, 30, 41	205	410 00
Van Gorder, C H	16	559	1,118 00
Winters, John B	15	559	1,118 00
Young, A J	51	15	30 00

And in accordance with law, and an order of the Board of Trustees, made on the fourth day of August, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on the twenty-first day of September, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office, 408 California street, San Francisco. sep5

North American Wood Preserving Company. Location of Works: San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the third day of September, 1868, an assessment of fifty (50) cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, Room 32 New Merchants' Exchange, California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the fifth day of October, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twenty-seventh day of October, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

WM. B. LAKE, Secretary.

Office, 32 New Merchants' Exchange. sep5

Silver Sprout Mining Company.—Location of Works and Mines: Kearsarge District, Inyo county, Cal.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the fourth day of August, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Alberding, F H	16, 17, 26	3	$90 00
Cozens & Cleveland	32	1	30 00
Devin, Benderc & McMillin	not issued	2	60 00
Gillig, John	34, 37	32	960 00
Gray, T C	63	7	210 00
Hearst, George	27	10	300 00
Mott, E R, Jr	82, 83	10	300 00
McMillin Thos	75	1	30 00
McLaughlin, J W	74	50	1,500 00
Martinez, Ladislao	30	4	120 00
Wingard, A	22, 50, 53	16	480 00

And in accordance with law, and an order of the Board of Trustees, made on the fourth day of August, 1868 so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on the twenty-first day of September, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINOARD, Secretary.

Office, 408 California street, San Francisco. sep5

THE MINING AND SCIENTIFIC PRESS comes to us this week in a new dress throughout, much improving its appearance. The PRESS is one of our most valuable exchanges, and fills a place in mining and scientific matters never attained by any other journal.—*Colorado Miner*

Machinery.

VARNEY'S
PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has everre-quired repairs. The constant and increasing demaud for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thcuce it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others.—They bring the pulp so constantly and perfeetly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setlers for themselves, at the **PACIFIC FOUNDRY,**

1v1 San Francisco.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077

3v13f SAN FRANCISCO.

Notice to Miners,
Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanliko manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG,

3v13-1y Stove Store. No. 125 Clay street, below Davis.



REMOVAL.

E. O. HUNT'S

Manufactory of

Windmills, Horse-Powers and Pumps,

Has been removed from the old stand on Second street, to

114 and 116 Spear st.,

Next above Stuart and south of Mission st., San Francisco.

Hunt's Patent Wind-Mills, Tread Horse-Powers, Sweep Horse-Pow ers for one or four horses, Sawing Machines, Pumps of all kinds for shallow or deep wells,—including Hunt's Submerged Pump, Hunt's Globe Pump, and Hunt's Single and Double-Acting Pump.

Pumping Machines and general Machinery kept constautly on hand and built to order.

Also, Water Tanks of all sizes.

Having put up large new buildings specially for my business, with greatly increased facilities in the way of room and steam power, I shall be able to build everything in my line at greatly reduced rates.

All desirous of procuring water for irrigating or other purposes, are invited to examine my articles before purchasing elsewhere.

23v16 **E. O. HUNT, Proprietor.**

OIL STOVES!

MORRILL'S

Petroleum and Universal Oil Stoves

Have proved themselves a superior substitute for Wood and Coal Stoves, in that they work quicker, are neater, bake and broil better, are MORE ECONOMICAL generally. They are portable, can be used in any room, with or without chimney, as they emit no smoke, soot or ashes. There are nine different sizes, designed for barbers, dentists, and other mechanical purposes—as well as for cooking. They are pertectly safe.

I now offer a reward of **$100** for every Petroleum Stove exploded by Naphtha delivered at my store, 18 Geary street, where they are for sale by

M. B. BULLARD,

Proprietor of Petroleum Stove for California, and Agent for Universal Oil Stove for Pacific Coast.

N. B.—Petroleum Stoves burn Naphtha converted into a gas. Universal Oil Stoves burn Naphtha, Benzine, or Coal Oil, with non-illuminating flame and light on a wick as easy as a lamp. 21v16 3m

To Inventors.

The undersigned is now prepared to assist inventors or others by manufacturing Models for the Patent Office, large working Machines or Devices of every description, in Metal or Wood, in the most workmanlike manner and at reasonable rates. Also, Patterns tor Iron and Brass Work and all kinds of Machinery.

Having had ten years practical experience in this city, parties can be assured all work entrusted to me will be executed in a prompt and satisfactory manner. Power will be granted to parties wishing to test or experiment with machinery.

☞Full files of the Patent Office Reports for the use of patrons. **J. H. CULVER,**

3v17-3m **20** Fremont street, over Phœnix Iron Works.

GLASGOW
Iron and Metal Importing Company

Nos. 25 and 27 Fremont street,

SAN FRANCISCO,

Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings, which they offer to the trade on liberal terms.

21v16-3m W. McCRINDLE, Manage.

SWYNEY & SMITH,
MARINE ENGINEERS,

63 Montgomery Block, San Francisco,

Are prepared to furnish General Plans, Specifications, and full detail Drawings for propeller or side-wheel steamers, also for iron vessels of all classes, engines, boilers, etc. Also for locomotive or stationary engines, and machinery in general. An experience of over twenty years in this profession enables us to furnish correct drawings and guarantee results.

JOHN SWYNEY. 8v17-tf DAVID R. SMITH.

Fire, Hose and Machine Belting.

THE SUBSCRIBER CONTINUES TO MANUFACTURE Oak Tanned Leather Fire Hose, warranted superior to Eastern Hose, manufactured at the Sixth Street Tannery, San Francisco.

21v16tf JOHN J. FULTON.

NELSON & DOBLE,

AGENTS FOR

Thomas Firth & Sons' Cast Steel, Files,

Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks,

Stone Cutters', Blacksmiths' and Horse-Shoers' Tools,

319 and 321 Pine Street,

Between Montgomery and Sansome, San Francisco.

luv14qr

Brodie's Patented Improvements



FOR THE TREATMENT OF

Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:

No. 1—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price..... **$600**

No. 2—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour..... **850**

No. 3—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour..... **1,200**

These Crushers have been erected at several mines in the State of Nevada, and others in Calaveras, Tuolumne and Mariposa counties, to whom applicants can be referred as being the most efficient, cheapest, and least weight compatible with strength and durability, of any Crusher yet erected.

BROOIE'S PATENT IMPROVED CERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

A diagram, with explanations of this machine, will be found in the "Miniag and Scientific Pross," of September 29th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHINO.—Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.

JAMES BRODIE, Fulton Foundry, or

CHARLES RADCLIFF,

Express Building, 402 Montgomery street,

12v13tf San Francisco.

C. F. TRAVIS,



Manufacturer of

FRENCH

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Mill-Stones,

AND

PORTABLE

MILLS.

Agent for

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Celebrated

DUTCH ANCHOR BOLTING CLOTHS.

Mill Picks, Mill Picks Dressed, Mill-Stones Repaired and Rebuilt; Mill-Stones Balanced with Fellenbaum's Patent Balance, of which I am sole Proprietor for California, Oregon, and Washington Territory. C. F. TRAVIS,

5v16tf 109 Mission street, San Francisco.

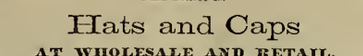
Belting and Lacing.

AN ENTIRELY NEW AND SUPERIOR ARTICLE OF exclusively mechanical preparation, made to order on short notice, and for sale by H. ROYER, at 435 Brannan street, between Third and Fourth. Refers to Eisen Bros., Pioneer Mills; Martin Steen, National Mills; Horace Davis, Golden Gate Mills; also, N. W. Spaulding, Saw Manufacturer. 6v16-3m

PACIFIC FILE WORKS,

No. 53 Beale Street, bet. Market and Mission,

SAN FRANCISCO.



Files Re-cut and warranted as good as new, with a saving of fifty per cent. REAPER AND MOWER SECTIONS MADE TO ORDER. The only establishment on the Coast. Orders from the country promptly attended to. ☞First Premium awarded at the State Fair, 1867.

2v17-3m **T. G. DURNING & CO.**



MEUSSDORFFER,



HAT MANUFACTURER

And dealer in

Hats and Caps

AT WHOLESALE AND RETAIL.

635 and 637 Commercial street.....San Francisco.
125 J street.....Sacramento.
Corner of D and Second streets.....Marysville.
72 Front street.....Portland, Oregon.

Our wholesale House, 628 Commercial street, extending through to 637 Clay street, San Francisco, contains always a most choice, and the largest, assortment in this State. Every Steamer brings the latest issued novelties from Europe and New York, which can be found at all the above stores, at moderate prices. 23v16 3m

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ATTORNEY AND COUNSELOR AT LAW

Room 25 Montgomery Block,

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HELY & CUSICK,



PRACTICAL

HOUSE

AND

Ship Plumbers,

914 Market Street,

A few doors west of Stockton.

Bath Tubs,

Water Closets, Wash Basins and Gas Fixtures always on on hand. Buildings fitted up with

Gas, Water and Steam, in the most improved manner.

Particular attention paid to Jobbing. All work warranted one year. 13v16-1y

HO TEAMSTERS!

CONTINUE TO

USE HUCKS & LAMBERT'S

CELEBRATED

H & L Axle Grease,

To which you have given so decided a preference for the last

FOURTEEN YEARS,

It is the only reliable article

IN THE MARKET

Every care will continue to be used to sustain the high reputation the H & L Axle Grease, has so long and justly attained.

☞Be sure and ask for the H & L brand, and see that the

TRADE MARK H & L

IS ON THE COVER OF THE PACKAGE

NONE OTHER IS GENUINE.

FOR SALE IN EVERY STATE IN THE UNION.



THE FLORENCE

RECEIVED THE HIGHEST PREMIUMS

At all the most important Fairs held in the United States in the year 1867. Gold Medals at the American Instituto Fair, New York; Mechanics' Association Fair, Lowell; Maryland Institute Fair, Baltimore. Highest Premium at the New York State Fair, Buffalo, and at the Great New England Fair, Providence. At the Fairs held on the Pacific Coast, this machine has taken

Every First Premium

Awarded on Family Sewing Machines in the LAST FIVE YEARS. If there is a Florence Machine within one thousand miles of San Francisco, that is not giving entire satisfaction, if I am informed of it, it will be attended to without express charge or expense of any kind to the owner.

SAMUEL HILL, Agent.

11v16-4m 111 Montgomery street, San Francisco.

SWAIN'S PATENT

Anatomical Boots

AT TEN DOLLARS PER PAIR.

Having received lately from Washington a patent for his new invention in Lasts, he is now prepared to make and sell as good Boots as the world can produce, at the above named price. A liberal discount will be given to the trade

J. H. SWAIN,

206 Bush street, San Francisco.

$6.00 $6.00

THE HANCOCK
SEWING MACHINE!

PRICE ONLY $6.00.

The Greatest Novelty Yet!

This is the simplest and cheapest Sewing Machine ever made, and performs its work with marvellous efficiency. Call and see it. Agents wanted everywhere, and great inducements offered. Sent by express, free of expense, on receipt of price (or C. O. D.) to all places in this State where we have no agents.

FULLER & CO., Agents for Pacific Coast.

4v17-3m 109 Montgomery street, San Francisco.

Oakland Seminary for Young Ladies.

The next term of this Institution will commence on JULY 20, 1868. Competent and experienced Teachers fill each department of study.

This School affords all the advantages of a thorough English course, the Ancient and Modern Languages, Calisthenics, Gymnastics, Music, and all the Ornamental Branches.

For Catalogues, containing full information, please address MRS. G. M. BLAKE, Principal, Oakland, California.

REFERENCES:—Rev. Sam'l H. Wiley, Oakland; Hon. Sherman Day, Oakland; Rev. A. F. White, Carson City. 3v17qr

BY EXPRESS.—Two cents per copy will be added to our usual rates of subscription (to pay Wells, Fargo & Co's tariff on papers sent by express. If connecting expresses in the interior make additional charges, subscribers must themselves settle the same.

HEAT AND MOISTURE IN THE DEEP NEVADA MINES.—The difficulties of increased heat and ventilation, are beginning to command attention in the deep mines of the Comstock Lode. A number of the leading companies are now engaged in putting in engines to drive fans for furnishing air to the lower levels, by forcing it through large tubes of galvanized iron. With this great increase of heat in our mines comes a great decrease of water. The Bullion, which has attained the depth of 1,200 feet, being the deepest mine in Nevada, is as dry as a lime-kiln, and as hot as an oven. In the lower workings of the Chollar-Potosi mine, which are a perpendicular depth of 1,100 feet, the thermometer stands at 100 degrees, and the water has decreased till it has become necessary to run the pump but four hours out of the twenty-four. The water stratum is confined to a space between 400 and 900 feet in depth, so far as explored.

ANOTHER METHOD OF MAKING ARTIFICIAL STONE.—In St. Louis there is an establishment for making mantels, etc., from silicate of soda and sand. Flint (silicic acid) and soda are melted together in such proportion as to make a viscid substance. This, mixed with the sand, is ground in a mill and becomes plaster-like putty. It is then pressed into molds by hand. In a few hours it becomes perfectly hard, and is as perfect as the carver's work of months.

This process seems to be adapted to the sage brush State, where pure carbonate of soda has been found plentifully.

STILL another kind of artificial stone has been invented by M. Sorel. It is prepared by combining a saturated solution of chloride of magnesium with calcined magnesia. Billiard balls and ornamental objects are made with this, and a thinner paste of the same material serves to consolidate twenty times its weight of sand and similar material for the formation of tiles and flags or other rougher articles.

TOLL RAILROADS FOR COMMON WAGONS. To avoid the inconvenience of periodically impassable roads, to which most localities in California are subject, the *Alta* suggests that railroads could be built economically for the use of common vehicles. Being made for horse teams, the grades would not need to be so regular, nor would the curves require to have radii so long as on the steam roads. Tolls might be collected in the same manner as on turnpikes; and the charges could be higher, while the expenses of collecting would be no greater. It would be necessary to have a double track, so that a continual striug of wagons could pass each way.

PRODUCERS WANTED.—It is very evident from the present aspect of things that we have reached the point at which a modification of the producing and the distributing force of the community must be affected. A portion of those now using their capital or their labor in the distribution of products, that is in trading operations, must become workers in one branch or other of productive iudustry, especially in agriculture or mining. This is needed in order to increase our supply of products, which being effected we should have lower prices; and prices lower aud increased consumption, and cularged and healthier trade. *Economist.*

HARDNESS OF IRON.—The durometer is the name of an instrumeut recently introdnced into use for testing the hardness of metals. It consists of a properly constructed drill, operated with a given uniform pressure and continued for a certain number of turns. The hardness of the metal is determined by the depth to which the drill will penetrate with a given number of turns. Most of the French contracts for railroad iron are now conditioned upon a test by this apparatus.

THE "LAMP-POST RAILROAD" in New York, along Greenwich street from the Battery to Fulton street, appears to be a success. The track is on posts, and occupies the place that awnings now do. Cars have been run from ten to fifteen miles an hour with safety aud comfort, it is said. The wheels are of wood where they come in contact with the rails. A stationary engine, operating by means of a wheel and endless cord, is the motive power. The new company has given bonds to complete the road to the vicinity of Central Park within a specified time.

MANGANESE.—A bed of this mineral has been located by J. B. Milligan, at the eastern base of the Jackson Butte, Amador County.

REFORM IN IRON SHIPBUILDING.—The New York *Times*, in a recent article, says the great point in iron shipbuilding is to use the material to the best advantage. We quote: "A rib placed where it can receive a maximum strain costs no more than a rib placed where it is merely dead weight. A ship is primarily a beam. As a beam it receives every strain of the sea. Now, a bridge or any girder made up of a thin, light web, running from end to end, and great vertical parts without longitudinal connection, would hardly sustain itself. Yet a ship so constructed is expected to hold up the enormous weight of its unsupported ends every time they overhang the trough of the sea, and of its partially supported middle every time the ends are buried in the waves—a constant and powerful vertical and lateral strain upon every joint in the hull. The great strain on a ship is the perpetual pulling apart and shutting together of its bottom and deck in a longitudinal direction, and the great number of iron ships have been built without sufficiently strong bottoms and without any top strength except their sides. Many ships have first broken apart at the top sides and then gone to pieces. Heavy, continuous iron decks or strips of iron deck along the sides have partially remedied this evil. But the grand reform in this direction is to make the frames, the *ribs* of the vessel, longitudinal instead of vertical. Now they are chiefly studs upon which to nail the siding. By making them continuous from end to end, they perform every present function and add their enormous strength *in the direction of the greatest strain*. Some genius has objected to the longitudinal rib system because the ribs of fishes are vertical. But while the rolling top of the sea forms a constantly varying support for a ship, a fish swims in a uniform medium that would not bend a reed—not on the water, but under it—and it has been observed that ships built like fishes have a tendency to do the same thing.

If our iron shipbuilders will place our superior iron where it can work, so as to use less of it, they can at once and successfully compete with foreign builders in cost and quality, and so revive not only our workshops but our merchant marine."

ANNEXATION OF THE SANDWICH ISLANDS. The King of the Sandwich Islands, in consequence of the annexation agitation by America, has threatened to place the island under British protection if his nationality is interfered with.

ELASTIC SPONGE,

A SUBSTITUTE FOR

CURLED HAIR,

—FOR—

ALL UPHOLSTERY PURPOSES.

Cheaper than Feathers or Hair,

AND FAR SUPERIOR.

THE LIGHTEST, SOFTEST, MOST ELASTIC, DURABLE and best material known, for Matresses, Pillows Cushions, etc. It is entirely indestructible, and its purity is almost immaculate. No moth, no smell, no dirt. It does not pack at all. Is always free from insect life; is perfectly healthy; and for the sick is unequalled by any bed in the world. Special attention given to furnishing Churches, Halls, etc. Satisfaction guaranteed.

W. R. STRONG,

General Agent Pacific Elastic Sponge Company, 617 Market street, San Francisco. 19v16 6meow

BUERK'S

Watchman's Time Detector.

THIS WATCH-CLOCK WAS INTRODUCED TO THE public in almost every section of the United States and Canada about five years ago, and it has proved itself to be the best invention in the world for testing the faithfulness of Watchmen. Since its introduction, the Proprietor has improved on some parts, and corrected deficiencies, and he has now

A Perfect Check upon the Watchman.

With other Clocks, a regular routine has to be followed, but with this a Watchman can be ordered to visit any particular place as often as required, without being compelled to go to places where it is not necessary to visit as often.

The instrument is complete in itself, portable, and as reliable as the best lever watch.

It is not so likely to become disarranged in its works as a good watch, because its parts are stronger. But when it needs cleaning, any common watchmaker can adjust it, its mechanism being simple. It requires no fixtures or wires communicating from room to room, as is the case with the ordinary Watch-Clocks; a small, inexpensive stationary key is alone required at each station. By its use places can be guarded that it would be impossible to guard with any other instrument, such as Railroad Tunnels, Bridges, Yards, Shops, etc. The instrument will in all cases be warranted perfect and satisfactory. Its price is invariably *Seventy-five Dollars*, cash on delivery, including as many keys as are requisite, not exceeding twelve.

THIS WATCH-CLOCK IS SOLD AT A LESS PRICE THAN ANY OTHER IN THE MARKET.

The DETECTOR is used extensively by large Manufacturing Establishments and Railroad Companies in the United States, from whom numerous testimonials have been received.

☞ This Detector is covered by two U. S. patents. Parties using or selling these instruments without authority from me will be dealt with according to law.

N. B.—Parties purchasing these Clocks should test them sufficiently in the counting-room or office, as they will not be taken back after having been injured by the Watchman through carelessness.

All communications promptly attended to. Address

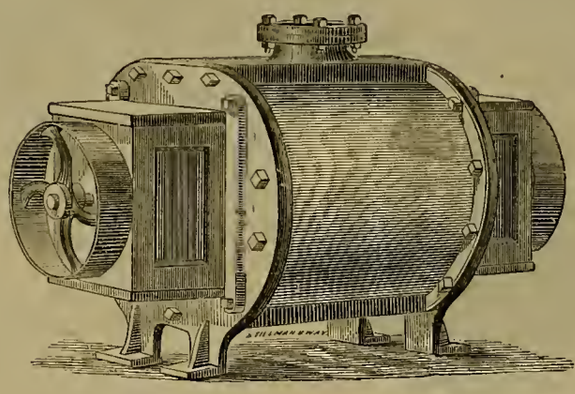
J. E. BUERK, Proprietor,
47 Congress street, Boston.

P. O. Box, No. 1057. 23v16 6m

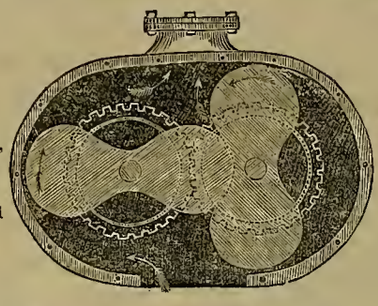
ROOT'S PATENT FORCE BLAST ROTARY BLOWER.

Patented Nov. 1st, 1864; July 24, 1866; and Oct. 9, 1866.

Awarded the First Premium at the Paris Exposition.



ADAPTED FOR Smelting, Foundry, Mining and Steamships.



REQUIRES Fifty Per Cent. LESS POWER Than any Blower Now in use.

One of these Blowers may be seen on exhibition at W. T. Garratt's Brass Foundry, corner of Mission and Fremont streets. They are also in use at the Almaden Quicksilver Mine; Gridley's Foundry, Gold Hill, Nevada; Ætna Iron Works, San Francisco, and many other places.

CAUTION.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.

For circulars and further information, address

KEEP, BLAKE & CO.,
Globe Iron Works, Stockton, Cal.

4v16 3m

HUNGERFORD'S IMPROVED CONCENTRATOR,

For Saving Gold, Sulphurets, Quicksilver, etc.

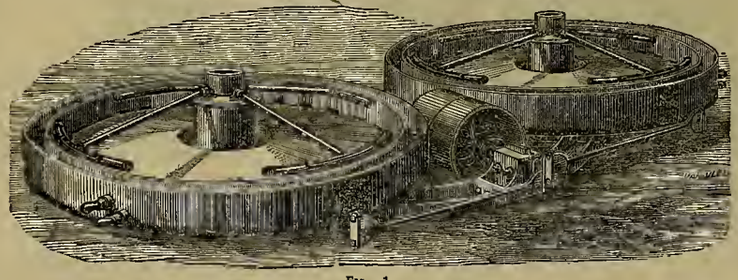


FIG. 1.

There is no description of machinery of so much importance to the mining interests of California, at the present time, as that for the separation of sulphurets. Many machines have been tried, and abandoned; and none seems to meet the requirement of the mining interest so well as that now patented by Mr. Hungerford, which is an improvement on the well known Hungerford & Prater Concentrator, with which his name is already so familiar.

Fig. 1 is a perspective view of that pan as now constructed. For economy of space and machinery, one shaft is made to drive two pans, which are set and arranged as shown in the engraving.

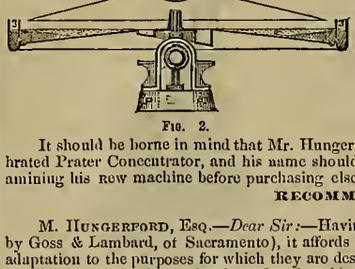


FIG. 2.

Fig 2 is a section through the center of the pan, showing how it operates in separating the sulphurets, as well as the great improvement to the pan, which consists of the addition of a circular trough outside the periphery.

A full description of the principle and mode of action of this pan, is described in circulars, which will be forwarded to any party who may desire them.

It should be borne in mind that Mr. Hungerford is the original builder and maker of the celebrated Prater Concentrator, and his name should be sufficient guarantee to warrant the public in examining his new machine before purchasing elsewhere.

RECOMMENDATIONS:

NEWCASTLE, Cal., June 21, 1868.

M. HUNGERFORD, ESQ.—*Dear Sir*:—Having used eight of your improved Concentrators (built by Goss & Lambard, of Sacramento), it affords me pleasure to bear testimony to their efficiency and adaptation to the purposes for which they are designed. I have used various styles of Concentrators during the last five years, but have found nothing that begins to compare with your machine, for durability and thorough concentration; and I can confidently recommend them to millmen, being, in my opinion, the best Concentrator now in use. Yours truly,

J. C. COREY.

NEWCASTLE, Placer County, Cal., June 23, 1868.

Mr. MORGAN HUNGERFORD, ESQ.—*Dear Sir*:—After witnessing the operation of eight of your Concentrators for a month, in the Golden Rule mill, Placer County, and running the same number in the Mt. Pleasant mill, El Dorado County, I am satisfied they are superior, as Concentrators, and more durable and less liable to get out of order, than any Concentrators I have seen; and I recommend them to millmen, feeling assured they will, after the most thorough trial, be pleased with them.

Very respectfully, L. E. ATCHISON, Metallurgist.

BIG OAK FLAT, May 23, 1868.—*Mr. Thos. Mulford*—Dear Sir:—I have used two of Mr. Hungerford's Concentrators in the Rattlesnake Quartz Mill, at this place, and find that they work full as well as they are represented to do. E. M. SMITH, Supt.

These Pans can be seen at the Pioneer Mills, entrance on Stephenson street, San Francisco.

In future these Pans will be manufactured exclusively by GOSS & LAMBARD, of Sacramento, which is a guarantee that they will be built in the most substantial manner. Price, $300

Address, Goss & Lambard, Sacramento, or M. HUNGERFORD, San Francisco.

Metallurgy.

KUSTEL & HOFMANN,

Metallurgists and Assayers.

Gold and Silver Bullion Assayed.

MINERAL ASSAYS & ANALYSIS MADE.

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SILVER AND GOLD ORES worked in small lots up to hundred pounds, by Chlorination and other methods. 18v16-tf

R. TAYLOR WM. H. TAYLOR.

ROBERT TAYLOR & CO.,

METALLURGISTS.

SMELTING WORKS,

Corner Folsom and Eleventh streets.

SIMMONS, ROWE & CO., Agents

Corner Pine and Sansome Streets, San Francisco.

GALVANIZING.

Also, Antifriction, Alloys for Journals, Type and Stamping Metals, Tinners' and Plumbers' Solder, etc., etc.

☞ The best price given for the most rebellious or refractory ores. Ores and minerals assayed and analyzed. 22v16 tf

JOHN TAYLOR & CO.

IMPORTERS,

AND DEALERS IN

ASSAYERS' MATERIALS,

Druggists' & Chemists' Glassware

Photographic Stock, Etc.

512 and 514 Washington Street,

SAN FRANCISCO.

WE are receiving direct from MESSRS. LAND & OERTLING (London) and BEEKER & SONS (Antwerp, Belgium) their superior

ASSAY AND BULLION BALANCES,

And from France and Germany, as well as the Eastern States, FURNACES, CRUCIBLES, MUFFLES, BLOW-PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, etc. We have given this branch of our business particular attention, to select such articles as are necessary in the development of the mineral wealth of this coast.

A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' SUNDRIES, ACIDS and CHEMICALS, constantly on hand.

San Francisco March 8, 1865. 11v10-tf

PROF. HENRY WURTZ,

Formerly Chemical Examiner in the U. S. Patent Office, may be employed professionally as a SCIENTIFIC EXPERT. Geological Examinations and Reports, Analysis and Assays, etc., etc. Practical advice and investigations in the Chemical Arts and Manufactures. Invention and examination of new chemical methods and products. Address, 26 Pine street, Rooms 35 and 36, New York. Always in from 12 to 3.30. ☞ Written communications preferred.

Important to Gold and Silver Miners and Companies.

PROFESSOR WURTZ,

Who is the inventor and Patentee of the new and wonderful uses of SODIUM IN WORKING GOLD AND SILVER ORES AND JEWELERS' SWEEPINGS, will furnish at the above address information in relation thereto, together with experimental packages of

SODIUM AMALGAM.

All instructions and experiments elsewhere obtained are spurious and unreliable. WORKING EXPERIMENTS ON AMALGAMATION OF ORES, Etc. Prof. W. has in operation in New York a large and small Hepburn Pan, for working 1,000 or 20-lb. charges of material for experimental purposes. 3v17

G. W. STRONG,

ASSAYER AND WORKER OF ORES,

UNION FOUNDRY,

Corner First and Mission streets, San Francisco.

Highest price paid for choice lots of Ores, Sulphurets, Assay Ashes, Sweepings, etc., etc. Students instructed in all branches of Metallurgy, on liberal terms. 14v16qr.

JOHN PERRY,

MANUFACTURER OF

Cocoanut Matting, Rugs, Mats, Etc.

And Cocoanut Fiber for Upholstery.

South side Chestnut street, bet. Polk and Larkin streets,

SAN FRANCISCO.

BY A PROCESS ENTIRELY NEW, THE PROPRIETOR is now manufacturing in quantity sufficient to supply the demands of the trade, A NEW AND SUPERIOR MATERIAL FROM THE FIBER OF THE COCOANUT—the best substitute for curled hair hitherto discovered—for matresses, chairs, lounges, and all upholstering purposes. The following are some of the advantages which it possesses over all other materials used for the above named purpose:

1st. It is cheaper, all things considered, than most articles in use.

2d. It is the best and purest material known in the market, being entirely free from all offensive smell.

3d. It is the most durable, not being subject to rot after years of exposure to moisture and dampness.

4th. It is remarkable for its elasticity, rivaling, in this respect, the finest curled hair.

5th. It contains nothing to breed vermin or support insect life, being entirely freed in process of preparation from all deleterious vegetable matter.

Lastly. It does not pack; is free from dust; much lighter, and in general obviates all the objections to palm, prepared shavings, soap root, and other inferior substitutes for feathers and hair. 22v166m

$100 A MONTH SALARY WILL BE PAID FOR Agents, male or female, in a new, pleasant, permanent business. Full particulars FREE by return mail, of sample, retailing at $4 50, for 50 cents. A. H. BOWMAN & CO., No. 4 Broad street, New York.

[Cut out and return this notice. 6v17-7t

THE MINING AND SCIENTIFIC PRESS, which commenced its seventeenth volume on the 4th, comes to us with a newly engraved head, and presenting otherwise its usual tasteful appearance. We take this occasion to say that the PRESS is one of the best papers of the kind in the United States, and every miner and mechanic in the State, as well as the business man, who would keep posted on our industrial resources, should have its name on its subscription books.—*Nevada Gazette.*

PIONEER DAY.—On Wednesday the Pioneer Society celebrated the eighteenth anniversary of the admission of California into the Union. Hon. E. D. Wheeler delivered the oration, in which, amongst other things, he said:

If the commerce of the great East in centuries goue hy, nourished the wealth of a hnndred cities; if it gave power to Thehes, glory to Sidon and Memphis, magnificence to Perseopolis, opulence to Ecbatana, and built amid the sands of the desert the marhle temples of Palmyra, who shall say that within the next hundred years it will not contrihute to make of San Francisco the most imperial city of the globe.

To partially realize the capacity of California, we have but to compare it with other States. With a population as dense as that of the State of New York, we would have within our borders 13,500,000 inhabitants; with the density of Massachusetts, we would have 25,000,000; with the density of France, 33,000,000; with that of Great Britain, 40,500,000; and had we as many people to the square mile as Belgium, our population would reach the enormous aggregate of 74,000,000. A work on international law, written by an American lawyer, has been translated into the Chinese language, and is now the accepted text hook at the capital of the Empire. We may now adopt the language of Louis XIV., addressed to his grandson on departnre to assume the Spanish Crown: "There are no longer any Pyrenees." The barrier to the eastward, that walled us from the world, has heen leveled; the 1,600 miles, stretching from the Sacramento to the Missouri, and which occupied the early emigrant 100 days in traveling, will soon be compressed into 100 hours luxurious journeying.

A TRIO of California inventions may be seen on the shelf by the halanced oscillating engine which runs the FAIR PRESS.

First, we will mention Detrick & Eckart's pocket counter, which looks like a smooth brass wheel, ½-inch face, and diameter hut a little in excess of an old-fashioned watch. It contains several gauged wheels and rings, operated hy a spindle, which may be prepared to apply instantly to any journal, at full speed, and accurately report the numher of revolutions. This is a handy tool, so simply constructed as to cost about $2.50 only.

J. S. Detrick's eccentric chuck, an adjustable labor-saving tool, just patented, is a simple, ingenious device applicable to the turning of eccentrics. It must he examined by mechanics to be understood and appreciated.

Wm. Kewin, master pattern maker, shows an improved hevel for laying off teeth for gear wheel patterns, well calculated to facilitate work in this branch. These inventions are all by men in the Union Iron Works of H. J. Booth & Co.

TELEGRAPHING WITH THE EARTH'S ELECTRICITY.—Geo. M. Dugan, of Booker Ford, and Colonel Coleman, of Memphis, have been telegraphing to each other for weeks with a current of electricity sufficiently strong for all practical purposes, drawn from Mother Earth, hy means of one sheet of copper and one sheet of zinc, which are buried to the depth of two feet, and having about four inches of earth hetween them. To the copper-plate, wires are attached, and the current thus procured seems inexhaustible. The operators at the telegraph office at Bolivar have dispensed with fluid of all kinds, and every message sent from Bolivar now is recorded by an instrument which receives its power from the huried battery.

THE most "forcible and striking" invention in the Fair, is undoubtedly the improved trip-hammer of Peterson & Jones, designed for the use of blacksmiths. It has attracted many spectators, who have expressed surprise at the easy manner in which it is controlled by the operator. It must be a very desirahle and economical instrument, tending towards making hlacksmithing rapid and easy. It is further doscribed in our advertising columns.

THE Isham key register bank and safe lock, so widely and favorably known throughout the United States, is exhibited by Mr. Jonathan Kittredge, of the Phœnix Iron Works, in connection with two Monitor safes. Theso safes are now extensively introduced here, as it has hcen many years since Mr. Kittredge commenced to build them.

LAMP EXTINGUISHER.—Fred. Rohrer's Lamp Extinguisher, which has been patented in the United States and several foreign countries, is examined with interest hy exhihitors and considered a good invention. It is a very useful application to a kerosene lamp, extinguishing the light instantly without removing the chimney.

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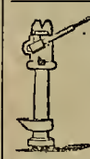
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MINING PRESS.—This old standard mining journal of the Pacific Coast, comes to us this week, number 1 of Volume XVII, and much improved in several particulars. A beautiful new head and heading letters throughout, make it the neatest, as it has always been the best, exponent of the industries of this coast. Every miner should take the PRESS. The subscription price is $5 per year, and the Postmaster at Monitor is an authorized agent.—*Miner July 4th.*

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A Journal of Useful Arts, Science, and Mining and Mechanical Progress.

BY DEWEY & CO., Patent Solicitors. SAN FRANCISCO, SATURDAY, SEPTEMBER 19, 1868. VOLUME XVII. Number 12.

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MINING SUMMARY—Comprising late intelligence from the various counties and districts in California, Colorado, Bacotah, Montana, Nevada, New Mexico, Oregon, Arizona and Utah.
San Francisco Mining Shareholders' Directory.
New Patents and Inventions.
Notices to Correspondents.

PLUTONIC INFLUENCES have been in the ascendant in the minds of our townsfolk for a few days past. The high spring tide of Thursday was pronounced an earthquake, wave heralding dreadful occurrences elsewhere, and the smoke from the burning redwoods on the northerly and seaward side of Tamelpais, which has been rolling calmly over the ocean and bay, owing to an unusually light atmosphere, was associated with Kilauea, and with the fires which are reported by telegraph to be devastating the forests of Oregon and Washington. Between Cowlitz and the junction of the Willamette, an area of 200 square miles is reported burning.

The dreadful earthquake of the 13th of August in South America no doubt laid the foundation for the many surmises which were credulously circulated. It is stated that no earthquake has occurred during the present century whose effects have been so disastrous in that country. The earthquake wave seemed to originate near the equator and to travel southward, so far as South America was concerned. In Ecuador and Peru there were two waves discernable, which crossed each other. Transit instruments were thrown out of level at the same time at the Sandwich Islands. It is surmised that the sources of disturbance are probably connected with the volcanoes of Agualougo and Cayambes. On the 14th of August an earthquake wave was observed at Los Angeles.

MINING IN EL DORADO AND AMADOR COUNTIES.—We have received additional communications from our traveling correspondent, describing the mines and mining operations at Diamond Springs, Sugar Loaf, Nashville, Placerville and Pleasant Valley, in El Dorado County, and at Amador City, Spring Hill, Sutter Creek, Jackson and Pine Grove, etc., in Amador County; all of which will appear in due season.

ICE MAKING.—A gentleman wishes to know if any parties in San Francisco are prepared to furnish machinery for producing ice economically in quantity—say 1,000 pounds in twelve hours. Any person who will give written information to this office on this subject, stating cost of machinery, amount of power and other necessary expenses required, will confer a favor. Information from manufacturers about it are solicited.

Pracy's New Engine Regulator.

With great pleasure we chronicle substantial improvements wrought out from time to time, by the steady working, practical mechanics, who seem more deserving of success than inventors who stumble into good fortunes by making accidental improvements entirely out of the line of their practice.

It is with these feelings that we herewith present an illustration of a recent invention by Geo. T. Pracy, of No. 109 Mission street, in this city, of an improved governor for steam engines. The engraving shows the



regulator with the arms extended, as if in rapid revolution. The balls are confined by jointed arms, hinged at the top and bottom, and having a knuckle-joint in the center. The slack is taken up and the valve of the regulator opened by the action of gutta percha springs, situated in the cylinders or pots on the right and left—operating by the plungers which are connected by lugs to the lower portion of the arms.

This regulator assumes somewhat the appearance of the Pickering Governor, but it is much simpler, having no spring bands to be nicely tempered and adjusted, and liable to breakage and repair. It is suited to any rate of revolution. The speed of an engine can be quickly adjusted by turning set-screws on the bottom of the cylinders which operate on the rubber springs.

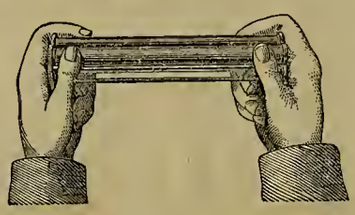
While this regulator can be made as cheaply as the ordinary governor, the inventor, one of our best mechanics, who has had one in operation for sometime, confidently claims it to be the best regulator in use. An ordinary mechanic with a common blacksmith forge could repair any of its parts in case of damage by accident. The force of the springs produce constant bearing on the various joints, preventing any loose motion of the same. It is more neat and cleanly than the common regulator.

Mr. Pracy has applied for letters patent, and already sold several of his governors. He invites the examination of the one in operation at his shop, by all parties interested. We regret that this California invention was not in season for exhibition at the Fair.

Patent Cigarette Rollers.

Although an experienced hand is supposed to make a handsome cigarette in comparatively quick time, yet when we come to apply the little piece of mechanism here represented, the old seems like a slow process of manufacture.

The Hazman Excelsior Cigaretto Roller is being introduced with favor in the Eastern States, and is certainly a novel instrument. The rollers are about ⅛-inch in diameter, and 3½ inches in length. Its principles of operation are well illustrated by the following directions for use:



Hold the machine in a horizontal position, the hinge-bar below, the rollers above, resting on the palms of the forefingers, and the thumbs being applied on the inner, the forefingers on the outer roller. Open the frame, so as to form of the india rubber hand a trough, or receiver, upon which the requisite quantity of tobacco—about three pinches—is equally spread and slightly pressed, so as not to prevent the rollers from joining. Close the machine and turn the rollers a few times; the thumbs on the inner roller gently operating downward, and the forefingers on the outer roller upward, assisting the motion evenly. Then insert one of Hazman's Patent Cigarette Wrappers into the gap between the upper roller and tobacco, having the prepared or adhesive surface next the tobacco; close and rotate, slightly pressing the rollers together, but using no force, during the process. The wrapper having nearly disappeared, wet its margin—a few more rotations will complete the cigarette.

The wrappers used with these rollers are of the natural color of tobacco, and are so prepared as to destroy the bad taste and influence possessed by paper commonly used for wrappers. For further information in regard to this invention, address A. H. Hale, box 17, San Francisco P. O.

THE BENEFITS that were given during the last week of the Mechanics' Fair, resulted in substantial aid, as follows: For the Roman Catholic Orphan Asylum on Monday, $648.50; for the Ladies' Protection and Relief Society on Tuesday, $631; for the Protestant Orphan Asylum on Wednesday, $1242.75; for the Female Hospital and S. F. Benevolent Asylum jointly on Thursday, $700; and for the Mechanics' Institute Library on Friday, $690.25.

CENTRAL CALIFORNIA.—Mr. Doolittle has published a new map of Central California, embracing the counties of Butte, Yuba, Sierra, Nevada, Placer, El Dorado, and Sacramento.

ROYAL GEOGRAPHICAL SOCIETY.—Bishop Staley, of Honolulu, read a paper before the Royal Geographical Society, recently, on the "Geography of Hawaii, and the Recent Volcanic Eruptions," in which he stated that according to the census of 1867, the native population had continued to decrease as much as 8,300 during the past seven years, the total being now 58,765, while the whites had increased 400, numbering at present 4,194. Industrial girls' boarding schools were being established, to check the evil at its source. The whole archipelago had been lifted out of the ocean by volcanic agency, which began in the northwest islands, and gradually extended to its present seat of activity on the southeastern island of Hawaii, dying out behind. Coral beds were found at an elevation of 4,000 feet above the sea. At the recent eruption, mud streams burst up through the soil, and buried villages and ranches. The column of vapor which issued from Kilauea was visible at a distance of 120 miles, and computed to be eight miles in hight.

ENGLISH TEACHERS AT PARIS.—Pecuniary encouragement was offered by the Science and Art Department of the Committee of Council on Education in Great Britain, to all government instructors who would visit the Paris Exposition, and write reports upon their own technological specialties. Every branch of the useful arts and sciences has been treated upon by persons whose business it is to communicate their information to others. Amongst the teachers named in the *Science Directory*, Mr. Gibsone is mentioned as writing to the *Chemical News* on the chemistry of the exhibition; Mr. Mayer, to the Glasgow *Journal*, on Metallurgical and Chemical Processes and Products; Mr. Bolam, on Navigation; Mr. Davidson, to the Journal of the Society of Arts, etc.

THE "RUTAN FURNACE" has commenced operations at Jefferson City, Montana, upon ores from the Alta Montana lead. It was run continuously for fifteen hours, at the end of which time 500 pounds of rich metal or crude silver bullion was taken from it. An assay of this metal shows it to contain silver to the value of $474 in coin per ton, or at the rate of about $100 to the ton of ore. The first run was made upon selected rock, but it was made under some disadvantages. The operations are superintended by Mr. Fred. Holaus, the same gentleman who was connected with the Essler furnace at Argenta last winter.

GOVERNMENT CHARGES ON TELEGRAPHY. The "Electric Telegraphic Bill" which has just been passed by the British Parliament practically abolishes all private telegraphy enterprise in the United Kingdom, and places the business into the hands of the Post-office Department. Cheapness, universality, and uniformity of telegraphing, are the advantages promised. The government having come to an understanding with the telegraphic companies, no opposition was made to the bill. Doubts of want of efficiency are raised against the plan.

Communications.

In this Department we invite the free discussion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

Mining in El Dorado County.

BY OUR TRAVELING CORRESPONDENT.

During the last year, mining in this county has been at a very low ebb. It is now, however, reviving slowly, and on a basis that will experience no set back. Quartz is the main hope, and those who are engaged in working, are thoroughly convinced that they will have to go down deep on their ledges before a clear definition will be given. They are becoming better acquainted with the nature of the broken formation, in many places through which they will have to sink from 400 to 600 feet in depth before establishing a character of permanency to their mines. As yet, the only mine sunk upon to any depth at all, is the Pacific mine, at Placerville. This is down to the depth of 320 feet, and shows a vein of fair looking low grade ore, varying from four to twelve feet in width. Mr. A. Stephens, of San Francisco, is prospecting the lead with intent to purchase; intends to sink another 100 feet, at an expense not to exceed $5,000, and thinks he can show up a mine second to none in the State. This lead has been worked to the depth only of 180 feet, and yielded, all told, nearly $600,000. Mr. S. thinks he is north of the principal pay chimney, and by making a short drift south, he will strike the old pay shute; at the same time be sinking for another 100-foot level. In the opinion of the writer, this mine has been wretchedly managed, and through the fault of management—not the mine—work has for a time been suspended.

THE EPLEY MINE,

owned by Swan, McLane, Thomas Price and others, is running, and doing very well. They appear to have a fine shute of ore, heavily sulphureted, showing a width of vein of from four to fifteen feet, are down with their shaft 218 feet, and expect soon to open another level. They are running a 10-stamp water mill, concentrating their sulphurets with two of the old-fashioned English buddles, which are, by the way, exactly the reverse of Paine & Stephen's patent, viz., depositing the sulphurets around the center instead of the periphery of the buddle. The milling is under the immediate supervision of one of Price's graduates, and ought to be done up in a scientific and workmanlike manner. The

CONCORDIA MILL AND MINING COMPANY,

partly owned and superintended by A. Stahl, a graduate of the Mosheimer School, San Francisco, who has erected chlorination works, and is working a small mine yielding a heavy percentage of $150 sulphurets; has a 10-stamp mill, and is down on a 30-inch vein 70 feet; is working exclusively for the sulphurets, obtaining nearly all his gold through chlorination, and in a state chemically pure.

AT GEORGETOWN AND VICINITY,

some little start is being made. The Taylor mine (incorporated) A. Reiser, of San Francisco, President, W. T. Gibbs, Superintendent, has been worked off and on for two years, and is now starting again with very flattering prospects, having opened a 100-foot level that presents a richness and character of ore unprecedented in the history of the mine. The vein is narrow, varying from twelve inches to three feet in width, and has shown free gold all the way from the top down, increasing in richness as they descend. The formation is considerably broken, but the indications for a true vein, to a practical eye, are sufficient to warrant going down, especially as long as appearances improve. Mr. Gibbs appears to comprehend what is wanted, and if permitted by his company will, no doubt, prove a success. At present, they only have a 5-stamp prospecting mill (water power) obtaining $15 per ton on all ore crushed. They have new steam hoisting machinery on the ground, ready to set up at any time, or as soon as needed.

The Woodside mine at this place is lying idle for want of capital to procure heavier machinery. The mine is reputed very rich, and disinterested parties, knowing the mine, express a wonder why capital will not take hold of it.

Two miles from this place, at Georgia Slide, George Beattie is erecting a 5-stamp mill, with capacity for five more when needed, and is working a claim of partially decomposed quartz seams, the ore averaging $15 per ton.

The Blue Rock Company, nearly adjoining the latter, work the same character of ore, and have a 10-stamp (very light) mill, and are doing very well. This is owned and worked by George Rowe & Co.

AT GREENWOOD,

the Glenwood mine is commencing operations. This is owned by a San Francisco company, and superintended by S. P. Leeds, and will have a 5-stamp prospecting mill started during September. This mine consists of an immense ledge or mass of quartz seams and cement, 190 feet in width, all or any of which will pay something, and a portion of the same is considered very rich. Mr. L. intends to prospect the whole vein matter thoroughly, and if it will warrant it, will then erect a large mill with capacity to crush several hundreds tons per day.

AT SPANISH DRY DIGGINGS,

times are about the same as ever, and unlike all other mining towns or camps, this place has undergone but very little change. Here the miner digs away on his quartz seam until he obtains a panfull of dirt or decomposed matter, which he then washes, realizing from $3 to $50 per pan; from one to three pans being considered a day's work. From appearances here, the writer would judge this to be a fine point for investment of capital prospecting for valuable lodes of quartz. This place being situated very high, presents every advantage for working by tunnel. Down the mountain, 1½ miles from town, Messrs. Rousch & Simpers have a very rich lead, which they intend to work very soon. J. N. Williams and others in town are prospecting faithfully, and are expected to strike something good, ere long.

The Pyramid Mine, on

DRY CREEK,

four miles north of Shingle Springs, are working, and appear to have excellent indications for a good mine, but they will certainly have to change their plan of working, and go down, instead of working along the line of the ledge. The rock looks well for top rock, sufficiently so to warrant sinking upon. This mine is owned by Abbott, Gaylord and others. The ledge varies from six to forty feet in width; gold is very finely diffused through the rock, which yields considerable sulphurets, assaying $400 per ton. They have a 15-stamp mill (water power) water free three-fourths of the year. The only draw-back to this mine, is that the rock is not rich enough to more than pay expenses, and instead of sinking, they are hunting for better along the top of the ledge.

COLOMA.

Here is where gold was first discovered in California, and also where the discoverer—Mr. Marshall—still resides. The history of this discovery is familiar to almost every one, and the writer will simply remark that the man who picked up the first nugget, is still hale and hearty, although near sixty years of age. This being the oldest mining camp, one would think it ought to be thoroughly prospected, yet within gunshot of town they are finding rich veins of quartz, some of which have quite recently yielded very largely; among the most prominent is the Last Chance, owned and worked by Nicholsou & Peterson Bros. They have already taken out about $70,000. This ledge is from three to twenty feet in width, and as yet, have only worked off the top. They have done no sinking at all; are running a 10-stamp water mill, and in a very quiet way are evidently making money. There are many other leads here that promise well, and are only waiting for capital to open them. A few miles above, at Kelseys, there are one or two mines working successfully.

[To be continued.]

PROF. WARD'S MONTANA COLLECTIONS. The mineralogical and geological cabinet now owned by the university of Rochester, is, in classification and completeness, considered by certain authorities to be the finest in the United States. Prof. Ward spent eight years in collecting and arranging it. Persons in different parts of the country are forwarding material for a zoölogical collection, which, when completed, will compare favorably with his former collections. The few specimens lately sent from Montana, are an elk skeleton complete, a mountain lion, mountain sheep, gluttons, and several smaller animals.

NOBEL'S NITRO-GLYCERINE manufactory at Stockholm, was recently blown up, killing fifteen persons.

Lecture on Chemical Geology.

[Delivered before the Fellows of the Chemical Society, London, February 20, 1868.]

BY DAVID FORBES, F.R.S., ETC.

In considering a subject so extended and important as Chemical Geology, it is evidently impossible, within the limits of one lecture, to put forth anything like a complete exposition of its principles, or to enter into details; this evening, therefore, I propose, after a few introductory remarks explanatory of the principles which have guided me in my investigations, to venture upon a short sketch of the chemical geology of what may be termed the cosmogenctic era in the history of our globe, and then to attempt an explanation of some of the phenomena connected with the great changes which have taken place in the earth, from that early period down to the present time, in which chemical action has played an important part.

The history of the natural sciences fully shows how often their votaries have allowed themselves to be influenced by some often preconceived hypothesis, which has lead them to ascribe to some one favorite cause effects which in reality have proved to be the result of a combination of several causes.

To this tendency may be attributed the formation of the opposing schools of geology, the Plutonic and Neptunic, or igneous and aqueous. Yet it must at the same time be remarked that this occurred at a time when experimental science was hardly out of its cradle.

The rapid strides in advance made by all the natural sciences in every direction, have now, both by the accumulation of facts, and the elucidation of the laws which govern them, shown how difficult, if not impossible it is, in the study of nature, to draw any sharp line of demarcation as to where any one cause ceases, and another begins to operate.

Increasing and more exact knowledge shows that mere fire and water are not the only great agents that work the changes that have taken place, and still do take place in our globe, and that the geologist, in order to arrive at sound conclusions, must take the various effects produced by chemical action, heat, light, electricity, and mechanical force into full consideration.

The study of the correlation of these forces is also one which, although as yet but in its infancy, promises great result in the explanation of geological phenomena. It has now been satisfactorily proved, that mechanical force may, if not directly, at least indirectly, be converted into chemical action, or in other words, cause forces, formerly regarded as purely chemical, to be brought into play, so that the assumption that mechanical forces can only give rise to what have been termed mere mechanical results, must be guarded against in consideration of nature's phenomena.

Every geologist admits the great part which mechanical energy has taken in bringing about the changes in the physical configuration of this globe; as, for example, amongst others, the compression, crumpling up, and consolidation of strata, and in the elevation, depression, and dislocation of enormous rock masses, effects which have characterized, and still do characterize the history of the earth; and as it is known that the expenditure of mechanical power is attended by a corresponding development of heat, which in its turn may give rise to a proportionate amount of chemical action, it evidently becomes a subject of great interest to inquire into how far such conversion of mechanical into chemical force may have assisted in the metamorphic alteration of rock-masses.

The familiar experiment of striking a light with flint and steel is an excellent illustration of the conversion of mechanical force into heat, along with the development of chemical action; for the effect of the mechanical energy exerted is to heat the minute particles of metal detached from the steel to such a degree as to enable them to combine chemically with the oxygen of the air; the heat generated being then so intense, as to fuse the product into minute spherieles of magnetic oxide of iron, as can be seen when the sparks are collected on paper, and examined under the microscope.

Whilst directing attention to the importance of the study of this subject, the geologist not versed in chemistry must, however, be warned against attributing too much to such agency, especially when examining what appears to the eye to him to be the transition (or transmutation) of one rock into another; for before accepting such evidence, the chemist will insist upon previous proof by chemical analysis that there are present in the one rock the chemical elements requisite for the formation of the other; or if not, that there is a rational mode of explaining how any deficiency in component parts has been supplied, or any surplus removed.

The study of electricity (with magnetism) in its relations to geology is not unlikely to throw light upon some now obscure points, but has not yet been much attended to, and I must confess that an examination of what has been written upon the application of electricity to explaining the formation of mineral lodes, makes one suspect that the effect has at least in some cases been mistaken for the cause; and that the electricity which was supposed to have brought about certain chemical changes, may have in reality been the result of these very changes, and not their cause.

After thus insisting that the investigator in the study of chemical geology must of necessity call in to his assistance a knowledge of the collateral branches of the natural sciences, I may here state, that in appearing before the society to-night, I do so not as a partisan of any school of geology, whether Plutonic, Neptunic, quiescent, or cataclysmic, but as an independent observer, who believes that the principles upon which all these schools have been founded have each had a share in nature's operations, and that they therefore must be taken into equal consideration, and who further assumes that most, if not all the phenomena of nature have been effected by a combination of more forces, and that the same identical phenomena may at times be the result of agencies, totally different from those which at other times may have given rise to them.

The study of mineralogy, which is the alphabet of petrology, shows that very many mineral species, and amongst them some of the most common rock-constituents, may have at different times been formed by very different processes.

Thus, amongst the specimens here on the table before us we have crystallized silica or quartz occurring in nature—

As an igneous product in recent volcanic lavas.

As an aqueous product from crystallization and deposition from solution.

And as a gasolytic product in tubes from the decomposition of its compounds with fluorine.

Sulphur is also seen—

As an igneous product from volcanoes.

As an aqueous product, both from hot springs and as a product of decomposition of sulphides.

And as a gasolytic product from fumeroles.

And several others.

Experimental researches on the artificial formation of minerals also prove satisfactorily that the same mineral or product may be obtained artificially by very different, often the most opposite processes and reactions.

Thus we find silica in the hearths of iron furnaces, formed by igneous action, apparently by the oxidation of silicon.

In the wet (or aqueous) method, silica is obtained in the decomposition of silicates by acids.

And lastly, it can be produced as a gasolytic product from the decomposition of these compounds of silicon with chlorine and fluorine.

Again, we can produce, by analagous processes, sulphur and carbon, either as igneous, aqueous, or gasolytic products, and amongst other specimens on the table will be found fine specimens of crystallized metallic copper, produced artificially, both by igneous and aqueous process, as well as from condensing the vapors which are evolved from the copper refineries.

Feldspar has been produced artificially as a furnace product, as well as by the action of water; and even some of the zeolites or hydrated silicates have been produced experimentally, both by igneous agency as well as by aqueous actions.

Numerous other examples might be brought forward in addition to those here mentioned; and the conclusion I would deduce from their consideration, is that it is impossible to be over-cautious in attributing the formation of minerals, or of the rock masses in which they occur to any one cause, to the exclusion of other agencies.

Before proceeding further, it appears advisable, in order to prevent misunderstanding, that the precise meaning attached to certain terms employed in geological inquiry, should be clearly defined, as they are likely to occur repeatedly, in the course of this evening; amongst these the terms igneous, aqueous, and gasolytic are of most importance.

[Continued in our next.]

WHEN you are angry, don't write. Words when spoken are air, but when written they are things.

Mechanical.

Use and Care of Tools.

It is said the Yankees are the most inveterate whittlers in existence, and we once heard one of our Yankee friends remark that the most valued and indispensable of his possessions were a pocket knife, pocket comb, and watch, with true national or natural instinct, placing the knife at the head of the inventory. Yet comparatively few who consider the pocket knife a necessary adjunct seem to understand its care. It is seldom one can borrow a fine knife from an acquaintance. It is either left as it came from the manufacturer, or has its edge rounded so its cross section is a conical wedge, or it is abraded to tenuity by the action of the coarse stone of the street grinder's machine, one of the most ruinous contrivances for sharpening knives or razors. But besides the neglect of the edge of a knife blade, the heel, which acts on the back spring, and the rivet in which the blade turns, are seldom oiled, and it requires an effort not only to open a blade but also to close it.

As the pocket-knife comes from the manufactory or store, its edge is unfit for use; it may cut butter or cheese, possibly soft wood, but it will not pare finger nails or sharpen lead pencils. It needs the hone and strop to produce an effective edge. And in the proper use of the bone, or oil stone, many are quite ignorant. First, nothing but a good oil stone is fit for sharpening a knife blade. Ordinary "whetstones," mere sandstones to be used with water, or dry, are too coarse; they are but fixed grindstones, and rapidly abrade the substance of the blade without giving it an edge. The philosophy of whetting or honing is a gradual and mutual abrasion of the particles of the stone with those of the steel. The oil, with its glutinous quality, holds these commingled particles, so that by the movement of the blade they act on the steel, and abrade it very gradually. If the stone is too hard it quickly glazes, and the blade slips over a perfectly smooth surface, producing no action on the hardened steel; if too soft, the stone allows the edge of the blade to disintegrate its surface and heap up a ridge of quartz-like or flinty particles, which produce a round or "stunt" edge, that in time must be removed by the action of the grindstone. One accustomed to sharpening knife blades can easily tell when the operation of honing is going on properly, and only experience can fully teach the process. There should be a certain feeling of resistance in the operation. The motion for whetting or honing should be circular; not as in stropping a razor, merely back and forth. The educated fingers will readily feel when the blade bears properly on the surface of the stone, and will guard against the mere abrasion of the back and the cutting in of the edge. This art can only be acquired by practice.—*Iron Age.*

Compressed Air for Propelling Street Cars.—New Orleans seems to be taking the lead in devising new methods for propelling street cars. Mr. Wayliss, of that city, has recently invented a car which is said to have proved a complete success. In the car station there is an ordinary steam engine of about 66 horse power for compressing air into reservoirs, which are made of a paper composition, and two of them are placed on top of the cars. On each car there is a small engine operated by air supplied from the reservoir in the same manner as steam, giving the exact amount of power that was required to compress the air. The engine is not difficult to run, and the cars can be stopped much more readily than when horses are used. Each car will have 300 pounds of compressed air to start with, which will be sufficient to run it nine or ten miles. The exhausted air, as it escapes from the engine, may be used for ventilation. In New Orleans there are 5,000 mules and in New York 40,000 horses, said to be employed in the various railway lines. By this method of compressed air, they will be superseded, as it is cheapor, and at the same time, less wearing to the conscience of riding humanity.

Porosity of Hydraulic Cylinders.—To stop up a porous cylinder cast for a hydraulic press, Kohn, a Berlin engineer, heats it over a charcoal fire to about 176° Fah., then fills it up with resin, and suspends it by a crane over the fire, until the liquefied resin is seen sweating through the outside. The excess of resin is then poured out, and the cylinder allowed to cool. The pores will be found so completely stopped, that no water can possibly pass.

Smoky Chimneys.—A correspondent of the *Builder* submits a simple and cheap remedy for smoky flues, which is stated to be successful in eight out of ten bad chimneys. The principle upon which it depends is sound. He says: "I find from experience that, by the use of fine wire gauze of from thirty-six to forty wires to the inch, as a screen, blower, or guard, judiciously applied to register stoves, ranges, or stove doors, little if any smoke will come into the room through the gauze, and if applied immediately to the front of the fire more smoke will be consumed than by any other means. In that case the wire should be kept two inches from immediate contact with the hot fire."

A New Kind of Bayonet has been invented by Colonel Rice, in the shape of a steel trowel, nine inches long, and three or four wide. It is designed to enable troops to cover themselves very rapidly. In the last war, the troops did this with knives, spoons, fingers and their bayonets, with which, however, they could not scoop up the earth. This provides them always with facilities for entrenchment. Colonel Rice estimates that a line could throw up twenty inches of dirt in ten minutes, so that troops need never to be caught out of shelter. That this weapon would not answer all the purposes of the old bayonet must be admitted; but it is urged that the weapon is now obsolete; that not a hundred men were killed by it during five years of war.

Velocipedes are much in vogue now for rapid and easy movement, and grace of evolution. They have one fore and one hind wheel, and are kept upright by the skill of the rider in turning the front wheel, so as to regain his balance. In the south of France, near Toulouse, there was a race, not long since, between a *velocipedist* and a horseman for a distance of forty-five miles, which the latter only won by twenty-five minutes, after a run of six hours. The result, it is said, might even have been reversed, and the inanimate have beaten the animate machine, had not the former been impeded by a strong head wind, which was blowing the whole time.

A New Projectile.—We were last evening shown a new invention called the "improved projectile." It is a three-flanged cannon ball. The inventor, Mr. A. F. Potter, claims that this ball can be thrown from a smooth bore Rodman gun with greater accuracy and force than any ball fired from the rifled cannon now in use. Mr. P. has for the past six years been engaged in working out this invention, and thinks he has it now nearly perfect. This will be proven by a trial very shortly of his gun and projectile, the result of which we will lay before our readers.—*Oakland Transcript, Sept, 11th.*

Submarine Navigation.—An account is given in the Marseilles *Nouvelliste* of a successful method of submarine navigation and perambulation which has been employed there in doing work under water. The air is supplied by a mechanical and chemical process combined. Before the vessel is let down, a provision of compressed air is secured by means of pumps, and distributed among the various compartments; it is calculated to balance the pressure of the column of water she is to encounter at the depth required. The immersion of the submarine boat is obtained by increasing her specific weight through the introduction of water into her reservoirs; the immersion is effected by the expulsion of this water, which latter, therefore, acts as a movable ballast. The boat's center of gravity is so arranged as to make her touch the bottom with her base flat, and almost without a shock. When the ground has not been explored before, the vessel is kept in suspension until, by a skillful manœuvre, a proper place is found for her. By ingenious contrivances, an exact equilibrium is obtained between the compressed air and the column of water, and the trap doors communicating with the bed of the sea are then opened. The men, standing with their feet on the latter, but having their heads still in the chamber containing their supply of air, carry the boat to the spot they want to explore; but if they find it necessary to leave the craft, each puts on his scapbander, or water-tight helmet, provided with a hose, through which he receives air from the vessel, and which is screwed to one of the reservoirs of compressed air, and can thus work at a tolerable distance from the boat.

Scientific Miscellany.

The Moon and The Weather.

Professor Elias Loomis read a paper before the American Association for the Advancement of Science upon the "Influence of the Moon upon the Weather," of which the following is an abstract:

Several meteorologists have attempted by a comparison of a long series of observations to determine if the moon exerts any influence upon the weather. From a comparison of twenty-eight years of observation in Germany, Schubler, in 1830, deduced a sensible influence of the moon, the number of rainy days at the time of the second octant being twenty-five per cent. greater than at the time of the fourth octant. From a comparison of observations made at Paris, Orange and Carlsruhe, Gasparin arrived at results not differing greatly from those of Schubler. By a comparison of sixteen years of observation at Greenwich, nine years at Oxford, and sixteen years at Berlin, Mr. Harrisen, of England, has obtained results which are remarkably consistent with each other, and which indicate that the moon exerts an appreciable influence upon terrestial temperature, the maximum occurring six or nine days after the new moon, and the minimum about four days after the full. The difference between the maximum near the first quarter and the minimum near the last quarter is two and a half degrees Fahrenheit. These results, which are so different from what might have been anticipated, Mr. Harrison explains by supposing that the moon really attains its greatest heat about the last quarter; but that the heat which the moon radiates to the earth is entirely dark heat, and therefore absorbed by our atmosphere. This heat raises the temperature of the air above the clouds, causing increased evaporation from their surface, by which they are dispersed, and thus there is an increased radiation of terrestial heat to the sky, and consequently a diminution in the temperature of the air near the ground. He supposes that opposite results must occur at the period of minimum heat in the moon. Upon extending the comparison to forty-three years of observations at Greenwich, Mr. Harrison finds still a fluctuation of temperature, but the range is reduced to one degree and one minute instead of two degrees and five minutes. Mr. Ballat, on tabulating a series of seventy years mean daily temperature, according to the moon's age, found that the highest temperature occurred during the seven days after full moon, being almost precisely opposite to the results of Mr. Harrison. Schiaparella has made a careful analysis of 38 years of observations, made at Vigiroano, near Milan, in Northern Italy, and has attained results which are also remarkably consistent with each other. They show that about the time of the last quarter of the moon there is a maximum in the number of rainy days, as also in the frequency of storms, and in the degree of cloudiness.

The Professor then exhibited a table of results which he had deduced from seven years' observation, and drew the conclusion that the moon did affect the weather, and maintained, in direct opposition to Prof. Herschel, that the moon just before its full influenced the weather toward cloudiness rather than clearness, and followed the same law as the sun.

Falling Stars.—At a meeting of the French Academy of Sciences, M. Chapelas sent in a new paper on falling stars, accompanied with a table of the position of the sixteen groups or centers of emanation from which they seem to proceed. The author has discovered that the zenithal distances of these apparent centers are more considerable in January than in February, and that at the same time the corresponding average barometrical pressure follow the same law.—*Galignani.*

Oxygenized Blood and Decapitation. The *Revue Populaire*, of Paris, gives an account of some very curious experiments made by Dr. Claude Bernard. If oxygenized blood be injected into the arteries of the neck immediately after decapitation, warmth and sensibility return, the eye gets animated, and displays such perception that an object shaken before it will cause winking of the eyelids and movements of eyeballs as though to avoid injury.

A submarine telescope has lately been tried on the river Eure, France, with great success. It is stated that the smallest pearls and the barnacles attached to the hull of a large ship were plainly seen, and that fishes were seen passing back and forth without being disturbed.

Liquid Fuel Combustion.—The Patent Fuel Company, at Doptford, England, burn liquid fuel, or creosote, by a patent process in tar boiling. The liquid is pumped from a reservoir by a small force pump into a boiler, till a pressure is obtained of twenty-five pounds to the square inch, which enables it to be injected with considerable force into the furnace, where the steam is generated. The feed from the boiler, when the pressure is raised, takes place through a small wrought iron gas-pipe, having one coil near the surface of the grate, from which the creosote escapes at a temperature of about 670° to 700° Fahr., through four apertures, each about one-sixteenth of an inch in diameter. The productive power of thirty-six gallons, costing 3s., was equivalent to eight to ten cwt. of coal, while the relative volume was only two-fifths of that of the coal.

Tungsten Steel Magnets.—In a recent lecture, C. W. Siemens, F.R.S., spoke of the remarkable effect of tungsten upon steel, in increasing its power of retaining magnetism when hardened. A horse-shoe magnet of ordinary steel, weighing two pounds, is considered of good quality when it bears *seven* times its own weight. The famous Haarlem magnet supports *thirteen* times its own weight. But Mr. Siemens has succeeded in producing a similar horse-shoe magnet of tungsten steel, which will carry *twenty* times its own weight suspended from its armature.

Synthesis of Neurine.—M. Wurtz has succeeded in preparing by synthesis, chlorhydrate of trimethyloxethylammonium. It is in long deliquescent needles, and is identical with the neurine usually obtained from brain matter. *L'Institut* gives an account of M. Wurtz's experiments.

A Prussian chemist has invented a new method of warfare on the battle-field. It is a powder that makes a whole regiment sneeze for half an hour.

Discovery of Gold Fields in South Africa.—Gold has been found pretty extensively in South Africa, between 17 and 21½ degrees south latitude, and about 400 miles distant from Pretoria, the nearest point of civilization, in the South African Republic of Transvaal. The kingdom of Sofala, situated on the coast to the eastward of the alleged gold formation, has heretofore been considered to be the *Ophir* of King Solomon's time. Messrs. Hartly & Mauch,—the former an old elephant hunter, the latter an emissary of a Berlin Scientific Society,—report that the gold is found in quartz veins, and that the fields are of vast extent. The natives are known from old times to have brought gold to the Portuguese in quills. They are said to light big fires to loosen the rock containing visible gold, and then further disintegrate it with their "mashetes."

The California Pioneer Fuse Manufacturing Company commenced business in this city in 1866. Their factory is located on the Potrero, and is in constant operation for the manufacture of all kinds of safety fuse for blasting purposes. They employ at present 12 men. They are the first company which commenced the manufacture of the article, and their first work was done in January 1855, at Grass Valley, by James Eva, the inventor of the machines. The samples exhibited by the company comprise submarine water-proof tape fuse, single, double and triple, and common dry ground hemp fuse. A section of the first fuse made in the State, by Mr. Eva, was exhibited at the recent Fair. The capacity of the manufactory at present is about 12,000 feet per day, and as the demand increases, the facilities of the company are enlarged. The jute and flax thread is imported from Dundee, Scotland, but the company are about to erect machinery for spinning their own jute and flax. The other materials used are imported from the East, except the powder, which is made by the California Powder Company at Santa Cruz. We quote the above from the *Bulletin.*

New Patents Issued to Pacific Coast Inventors.

Specially reported by the U. S. Patent Office, Washington, D. C., to Newey & Co., American and Foreign Patent Solicitors, and Publishers of the Mining and Scientific Press.

Issued for the Week Ending September 1st, 1868.

81,620.—Improved Machine for Manufacture of Screwed Boots.—Joseph Galli, San Francisco, Cal.:

1, I claim the rigid jaw B, and movable jaw C, operated from below, attached perpendicularly to the plate A, and carrying the screw-plate a, b, at their outer end, the whole constructed and operated substantially as and for the purpose herein described.

2. The cutter F, working close to the sole, together with its operating lever G, link *d*, and arm H, constructed and operating substantially as described.

The object of this invention is to provide an improved apparatus for cutting off the screws after they have been inserted in the soles of boots, and consists of two jaws, one rigid and the other movable, operated by a lever, and is intended to be attached to the machines now used for the manufacture of screwed boots.

81,648.—Improvement in Pumps.—Wm. H. Keep, Stockton, Cal.:

I claim the bail J, in combination with the ring I, the valve-seat H, the frame P, the ring G, and the valve-seat F, as and for the purpose set forth.

81,672.—Improvement in Door Bells.—Oliver B. Oakley and Hiram Rosekrans, San Francisco, Cal.:

We claim the hammer bar G, the cam F, and the two arms a and b, together with the knob I, operating by a horizontal or straight pull, either near the bell gong or at a distance, substantially as and for the purpose herein described.

The object of this invention is to so arrange gong door bells that they can be operated by a horizontal or straight pull, by means of wires leading to any part of the house.

81,676.—Ball Alley.—James D. Patrick, San Francisco, Cal. (Antedated August 25th, 1868.)

1. I claim the springs I, I, attached to the spring-board I′, the holes E, in the pins through which the cords pass, and the weights J, J, in combination with the cords, substantially as described.

2. Constructing the ways C, C, so that the balls that roll from the sides of the alley will not come in contact with those that are thrown against the bank or end of the alley, substantially as herein set forth.

The object of this invention is to provide an improved ball alley, so constructed that when the balls reach the end of the alley, or fall from the sides before they arrive at the end, they will return by their own gravity, and not come in contact with each other, while being propelled or while returning. It also relates to a device for setting up the pins by the player himself, from the playing end of the alley, and consists in constructing the alley at an incline towards the player, At the sides of the alley are ways, one outside of the other, for the return of the balls. The whole forms a pleasant and agreeable mode of exercising the usually tedious game of ten pins.

81,677. — Improved Car and Track for Elevating on Incline Planes.—John W. Pearce, Suisun, Cal.:

I claim in combination with the double inclined track of the described construction a store or freight truck, having one axle shorter than the other, to adapt it to run on said track, and keep a horizontal position while passing up or down the same, substantially as described.

The principal object is to provide an improved plan for unloading or discharging ships at their wharves, and for elevating and lowering merchandise.

81,682—Improved Iron Piers.—Wm. B. Porter, Plattsmouth, Nebraska:

I claim an iron pier composed of a series of tubes encompassed or enclosed by a shell filled in with concrete, and all secured together in the manner substantially as herein shown and described.

81,700.—Improvement in Gang Plows.—P. H. Standish, Martinez, Cal., assignor to self and Oliver C. Coffin, of same place:

1. I claim the wheel E, lever M, with pawl I, and foot-pawl N, and manner of arrangement thereof.

2. I claim the tongue adjusting rod J, clevis R, plate Pl, as arranged and secured to the bed or beam B.

3. I claim the construction and arrangement of the bed B, and the manner of attaching the standards thereto in combination with the tongue adjusting rod J, clevis R, and plate Pl, as shown and described.

4. The crank-shaped standards with slotted and set-screw, substantially as set forth.

81,724.—Improvement in Gang Plow.—James H. Audrews, Benicia, Cal.:

1. I claim pivoting the pole C, to the hounds D, D, by a rod E, and linking the rear end of the pole to the arm G, of the shaft F, or equivaleut device, for raising and lowering the plows without lifting other parts of the frame, substantially as described.

2. The donble jointed frame I, having an apron J, attached and arranged to operate in the manuer substantially as and for the purpose set forth.

3. The manner of connecting the plows to the frame by the slips M, M, slots N, N, with bolts and nuts substantially as described.

This is a gang-plow, so constructed and operated that the several plows can be raised and lowered without the necessity of lifting a heavy mass of wood and metal. The invention also relates to the attachment of the plows to the beam or frame.

87,758.—Improved Wheel for Carriages. W. H. De Valin, Sacramento, Cal.:

1. I claim uniting the rim or tire to the hub or axle by means of a series of straps or flat bars of wrought iron, each bent at the middle where it is attached to the rim, and having its diverging ends extending thence to the hub or axle to which they are united in the manner set forth.

2. The combinatiou with the elongated hub and the axle upon which it is mounted, of the rim or tire, and a series of wrought iron straps or flat bars, for steadying and bracing the said rim, and for holding the same to the hub, the whole being arranged in the manner set forth.

81,762.—Improved Revolving Furnace for Roasting Ores.—Frederick Ernst, San Francisco, Cal.:

1. I claim the hearth D, revolving between the inner and outer walls B, C, of the furnace, with the circular rack F, and flange G, operating in the grooves of the rollers H, H, substantially as described.

2. The discharging apparatus operating transversely across the furnace above the rotating hearth, and consisting of the scrapers N, N, attached to the endless chain N′, operated by the wheels, substantially as described.

3. The construction of the hearth D, with the circular flanges E, E, so as to retain the ore upon the surface of the hearth, and the stirrer M, or its equivaleut, to turn the ore as the hearth revolves, the whole constructed and operated substantially as described.

4. The dampers u, u′, and sliding plate S, arranged to be operated substantially as and for the purposes described.

5. In revolving furnaces, carrying the ore in one direction on the hearth, while the heat, flame and gases pass in an opposite direction, substantially as described.

This is a mechanical furnace, intended to do away with the necessity of stirring the charge by hand. The ore is brought into a hopper above the furnace by means of elevators, and when sufficiently roasted is discharged by revolving scrapers.

81,789.—Improved Escapement.—Wm. C. Kellum, San Francisco, Cal.:

1. I claim tho escape wheel C, having escape teeth either on the side or rim, and the notched impulse rollers D and D′, above and below, constructed and operating substantially as and for the purpose herein described.

2. I claim the detent lever F, with the adjustable double-headed screw c, c′, or its equivalent, locking each tooth of the escape wheel twice at each revolution, either by spring or gravitation, substantially as herein described.

3. I claim the point d, on the arm G, and the point e, on the roller D, for unlocking, substantially as herein described.

This is one of several improvements on the movements of a watch or clock, which have been patented by Mr. Kellum, a dentist of this city, who has shown himself to be quite as much of a horologist as an odontologist.

Short sighted Policy—To injure your sight by reading at night, when a good fit from Muller's Spectacle Emporium, 205 Montgomery street, would save the eye for years. *

[From the Mechanics' Fair Daily Press.]

Comparisons with other Fairs.

Since the great London World's Fair of 1851, exhibitions of the same character have been in vogue everywhere. It has struck the vein of the times; and it is pretty certain that in centuries hence the histories will refer to this as the characteristic age when nationalties and distances, and the discord of Babel's tongues ceased to be a barrier to the unity of humanity, and when all mankind, civilized and semi-civilized, met for the first time on such cordial terms, in crystal temples of iron and glass, of such size and grandeur as nothing can convey to the mind but a sight of Sydenham palace itself, or a comparison with Miltou's imaginative edifices of the skies—when there was inangurated at the same time, as a kind of paleontological mark to perpetuate forever the associations of our age, a new and original style of architecture, which would seem to have heen an impossibility but for its conuection with some such characteristic development in the career of nations,—a temple in which the industries of the world were joined together to enthrone and glorify not the Queen, nor the Emperor, but the principle of man's equality, the sovereignty of universal common interests, and the godlike character of progress in invention. The subsequent London Exhibitions and the Paris *Exposition Universelle*, were but repetitions, with additional *eclat*. Local exhibitions, such as the Scandinavian Fair at Stockholm, in 1867, the American Institute Fair of 1867, the recent Australian Colonial Exhibitions, and the California Mechanics' Institute Fair of 1868, are but individual chapters of the book.

The surveyor and navigator locate their position relative to the rest of the world by bringing themselves in comparison with at least two other known situations, agrecably to the principles and conditions of trigonometry ; but progress, being a comparison of the past with the present, in order to ascertain our position at any given time in the future we shall only have to avail ourselves of the logbook, and the sailor's simple art of dead reckoning.

Hallidie's Wire Works.—A fuller description than we have given of these works would be found interesting to the general reader, as wire rope and wire cord made of different metals and alloys, have become so universal in their application, of late years. Iron and steel wire rope, flat and round, are now made for hoisting from mining shafts and inclines, for ferry ropes, guy ropes for derricks, derrick fall ropes, conveying power to distances, signal ropes, sash and picture cord, fencing strand, suspension bridges, etc.

The machinery which is used to make wire rope is ingenious, but not very complicated. Visitors at the Fair have seen one of these machines at work frequently in the afternoon and evening, turniug out wire rope and cords of a quality so flexible as to answer where almost any ordinary rope would be used,—as for the snspension of window sashes,—and they are incomparably more durable. Wire rope has been consumed to a very large extent too for the construction of suspension bridges in the more mountainous portions of the State, and across the deep gullies of the coast, roads and trails. In such localities the suspension bridge is found to be the most economical, at the same time that it is the most durable bridge that can be constructed.

STOCK CERTIFICATES,
STOCK TRANSFER JOURNALS,
STOCK LEDGERS,
ASSESSMENT RECEIPTS,

And all other Blanks, Blank Books, etc., required by Mining and other Corporations, kept on hand or printed to order on short notice, at moderate prices, at the office of the *Mining and Scientific Press*.

Silver Chlorination.

Messrs. Kustel & Hoffman have adapted chlorination also to silver ores, by a combination of the Plattner & Platera wet processes—dissolving the chloride of gold out first by means of hot water, and the chloride of silver afterwards by a solution of hypo-sulphite of soda.

This adaptation will be found especially useful where the ores contain both gold and silver. The method of procedure is thus described:

The ore having been roasted, is treated by the Plattner gold chlorination process, as used in numerous chlorination works in this State. The powder is moistened and put into a covered wooden tub or vat, into the bottom of which chlorine gas, made by mixing sulphuric acid, black oxide of manganese and common salt, is forced. This chlorine unites with the gold and forms a chloride which is soluble, and is leached out by letting water run through the ore. Sulphate of iron is added to the solution of chloride of gold, and the chlorine leaves the gold, which then being reduced to a metallic state, becomes insoluble, and falls to the bottom as a fine, dark-purple powder, which has only to be melted to turn into a bright yellow bar. Mr. Kustel has found that by drawing off the chlorine from one vat to another, instead of letting it escape after each change, as is the general custom, he can chlorinize a ton of silver ore with three pounds of manganese instead of ten pounds, the usual quantity in gold chlorination, and there is a proportionate saving of acid and salt. If there is any copper in the ore, it is leached out with the gold, and may be precipitated from the solution by throwing in pieces of iron.

The silver in the roasted ore is not soluble in cold water, and although it can be leached out by a hot solution of salt, yet as sixty-eight pounds of salt are required for one of silver, that process is so unprofitable that it is not used on this coast at all, and only on matt in Europe. But it can be leached out by a solntion of hypo-sulphite of soda, which is employed by Mr. Kustel, three-quarters of a pound of the salt being dissolved in a cubic foot of water, and two feet and two-thirds of the solution being employed to leach out a pound of silver. In leaching, the solution should stand six inches over the pulverized ore, which may be two feet deep, and be dripping down constantly, not less than twelve nor more than twenty-four hours. After leaching, the solution is clear, and contains oxide of silver in chemical combination with hypo-sulphite of soda. A solution of sulphide of sodium is poured in to precipitate the silver as a sulphide, which is drained clear of water in a strong canvas bag, dried, pressed, exposed to a low red heat to drive off the sulphur, and then melted with iron in a crucible. The bar consists of three-fourths silver and one-fourth matt, and the latter splits off when the hot bar is thrown into water. The matt contains from four to six per cent. of silver, and is crushed and roasted with the next lot of ore.

Several experiments tried on four tons of ore from the Rising Star mine at Owyhee, showed yields varying from three to six per cent. less than the fire assay, and the bullion, which is .700 fine when amalgamated in the barrel, was .957 fine by the Kustel process.

British Columbia.—The State Telegraph gives us the following interesting item from this place :

Victoria, Sept. 17th.—Considerable excitement exists here on account of the discovery of gold on the banks of Wolf Creek, twenty miles distant from this city, and three miles from Luck river. Two men arrived in town on Saturday with $97 in coarse gold, which they had taken out in one week. The largest piece is valued at $27, and is said to be superior in quality to that of Cariboo. Owing to the scarcity of water, very little work can be done at present. but it is expected that as soon as water can he obtained, good paying diggings will be found.

Another addition to the varied attractions and accommodations afforded the pleasure-seeking public at Woodward's Gardens, has been recently made in way of a new large restaurant in connection with the saloon. *

The Mining and Scientific Press comes to us this week in a new dress throughout, much improving its appearance. The Press is one of our most valuable exchanges, and fills a place in mining and scientific matters never attained by any other journal.—*Colorado Miner*

Weekly Stock Circular.

By Associated Brokers of the S F. Stock and Exchange Board.

SAN FRANCISCO, September 19, 1868.

Financial.

Business is quite brisk in this city, and, as a consequence, there is a much improved demand for money. The funds in our savings and loan institutions have been drawn upon with more than ordinary requisition for the purpose of carrying on legitimate transactions. Deposits are not so free nor so large, the money finding outside investments. Our bullion market is well supplied, and, notwithstanding the increased activity in the money market, bank rates remain at 1@1¼ ₱ cent. per month. Outside loans command 1½ per cent. per month. Our very large grain crops are being steadily moved, but the process makes no marked impression upon our financial condition. Gold bars are abundant at 870@880, and are being shipped by Chinese merchants in preference to Mexican dollars. The reason for this change has not yet transpired, but is undoubtedly due to some information exclusively possessed by that class of our business men.

On the 5th of September the North American Steamship Company's steamer Nebraska sailed for Panama with $300,000 in gold, shipped by the Sub-Treasurer. This makes $7,500,000 sent by that officer so far this year, being $2,000,000 more than were shipped in all of last year. There either is or is not some reason why these shipments are made furtively; if there is reason, Californians desire to know what it is, and if there is no reason, they demand that the seal of secresy be lifted.

The Mechanics' Industrial Fair has closed its regular course of exhibition, and has been continued in aid of our several benevolent institutions, all of which have received substantial tokens of the liberality which animates our people. Thousands of dollars will be distributed to the dependent in this chaste and handsome manner.

From the Auditor's annual report for the City and County of San Francisco, ending June 30, 1868, we extract the following in regard to taxes on premiums of insurance collected for the State of California:

FIRE AND MARINE INSURANCE.

Name of Company.	Gross premiums coin or its equivalent.	Tax, two per cent. Coin.
Ætna	$26,011 82	$320 23
British and Foreign	20,406 00	408 12
Continental	9,057 53	181 15
Hamburg-Bremen	52,921 38	1,050 42
Imperial	73,015 00	1,460 30
London and Liverpool and Globe	82,491 23	1,649 83
Manhattan	49,003 00	980 06
North America	2,485 32	49 70
Northern Assurance	10,776 93	215 54
North British and Mercantile	76,409 47	1,528 18
Pacific	4,140 00	82 80
Phœnix, of Hartford	81,989 57	1,636 19
Yang Tzo	5,317 24	106 34
	$493,444 49	$9,868 85

LIFE INSURANCE.

Name of Company.	Gross premiums coin or its equivalent.	Tax, two per cent. Coin.
Accidental	$4,939 30	$39 39
Brooklyn	62,397 47	623 97
Casualty	3,570 53	36 69
Charter Oak	58,645 13	589 45
Connecticut	40,717 41	407 17
Continental	15,846 13	158 46
Equitable	16,418 25	164 19
Globe	90 82	90
Guardian	21,519 29	215 19
Germania	144,623 45	1,446 23
Manhattan	67,328 90	673 28
New York	31,622 37	316 22
New York Mutual	351,083 76	3,510 83
North America	75,568 12	755 68
Northwestern	23,897 43	238 98
Travelers'	14,108 76	141 09
Universal	3,419 28	34 20
Widows' and Orphans' Benefit	21,466 30	214 66
United States	1,535 30	15 35
	$956,938 05	$9,569 53

Total Tax collected on Premiums of Insurance as per Treasurer's State Account and above Tables, $19,438 38.

City Stocks.

Since our last similar reference the sales of miscellaneous stocks in the Board were as follows: Spring Valley Water, on the 12th instant, at $66 25, and on the 18th at $66. North Beach and Mission Railroad stock was in the market at $72 per share. Considerable sales of Legal Tender Notes were made at 70 cents, while U. S. 5-20's commanded 76¾ cents. The California Steam Navigation Co. paid its usual dividend of 1½ per cent. on the 15th instant.

The Funded Debt of the City and County of San Francisco stood as follows at the close of the fiscal year, June 30, 1868:

City Bonds of 1851, 10 per cent., due May 1, 1871	$1,189,200
City Bonds of 1855, 5 per cent., due January 1, 1875	236,000
City and County Bonds of 1858, 6 per cent., due January 1, 1888	1,078,500
City and County Bonds of 1860 (School), 10 per cent., due July 1, 1870	54,500
City and County Bonds of 1861 (School), 10 per cent., due July 1, 1870	16,000
City and County Bonds of 1862-3 (San Francisco and San José Railroad), 7 per cent., due at various dates and in various amounts	257,500
City and County Bonds of 1863 (Judgment), 7 per cent., due October 1, 1883	801,500
City and County Bonds of 1864 (Judgment), 7 per cent., due June 1, 1884	28,000
City and County Bonds of 1864 (Central Pacific Railroad), 7 per cent., due July 1, 1894	400,000
City and County Bonds of 1865 (Western Pacific Railroad), 7 per cent., due May 1, 1895	250,000
City and County Bonds of 1868-7 (School), 7 per cent., due April 1, 1881	213,000
Total amount of Bonds outstanding	$4,554,200
Amount of annual interest on above indebtedness	$343,440
Amount of annual Sinking Fund	$163,000

Mining Share Market.

During the week under review, transactions in the Board have been less in volume than for some time past, the aggregate daily sales averaging about $300,000, in both open and regular sessions. Under the present depressed condition of the market time sellers have a marked advantage, reaping the profits of the fall, while others are suffering to no small extent. The tightening of the local money market has not a little to do with this condition of affairs, since the plethora of money so long prevalent here now finds other channels, and at a more remunerative rate of interest than has latterly been obtained. We cannot say that the claims on the Comstock lode present a more promising future than they did last week, however the fall in prices is not so much governed by their present condition as by the operations of speculative dealers. Our opinion is that those who purchased at the decline will gain handsome profits on their investments.

IMPERIAL—sold somewhat more freely, declining from $105 to $93, then selling at $97, and closing at $95. On the 15th inst., the Imperial-Empire shaft had been carried to a depth of 65 feet below the 900 level. The raise from the 900 level is up 98 feet, and the main drift, since the first of the month, has been opened 31 feet, the face now showing soft quartz. The winze from the 700 level of the Alta mine is down 85 feet. No change is reported in the ores on the different levels of this mine. They are hoisting 115 tons of ore daily from the Alta and 10 tons from the Holmes mine. For September account the hullion receipts foot up $13,400 against $10,100 same time in August.

SAVAGE—was active at the close at an advance, opening at $85, dropping to $77, rising to $92, and closing at $83. Heretofore we have always been privileged to read the weekly report of the superintendent of this mine, giving extracts from the same for the information of stockholders who reside at a distance, who cannot visit the office for this purpose, as well as those who desire to invest in the same, but this week and henceforth we are interdicted from doing so.

CROWN POINT—was in the market to a large extent at the decline, receding from $52 50 to $38, improving to $48, and closing at $45. We have nothing of importance from this mine. The recent break in the machinery has been mended, and all is again in good running order. The total receipts for August account have been augmented to $132,122.

KENTUCK—dropped from $360 to $250, rose to $300, and closed at $298. The receipts of bullion for August and September compare as follows:

To September 16th	$43,162 52
To August 16th	36,158 13
Gain in favor of September	$7,004 39

AMADOR—sold at $237 60@240. The first clean-up for September amounted to about $23,000. A dividend of $5 per share is payable now....CONFIDENCE has not been in the market during the past week. Bullion receipts to date for September account, $7,150....GOLD HILL QUARTZ was not sold in the Board during the week. Receipts of hullion so far during September, $3,821.

HALE & NORCROSS—was less active than last week, selling within a range of $54@45, then at $51 50, and closing at $47 50. From the Superintendent's letter we learn that "in the cross-drift west there is no change for the better; considerable quartz, but no ore. In the cross-drift south there are some spots of ore, but no decided improvements yet, although the quartz looks better. In the first and second raises north the ore is about four feet wide, and there is some improvement in the quality. In the drift running south, on the east wall from the last cross-cut, we have about four feet of ore."

CHOLLAR-POTOSI—declined from $150 to $127 50, advanced to $143, and closed at $137. During the week ending September 11th extracted 820 tons of ore from the New Bine Wing stope against 1,004 tons the previous week. Since the weekly report of the 4th inst. a considerable body of ore has been developed at the north end of this stope. As one drift only has been carried through it the extent of it is unknown. Drifts and faces to the southwest are all in ore that will be extracted for milling. During the week under review the incline has been carried to a further depth of 17 feet, and 47 feet have been added to the drift on the 1,100 level, which is now running through porphyry, clay and a small amount of dark quartz.

GOULD & CURRY—sold at $82 50@95, and closed at $90. During the week ending on the 13th inst. the Bonner shaft has been sunk 9 feet, the material extracted being of a similar character to that of last week, with a little more clay. Considerable ore continues to be extracted from the croppings.

OVERMAN—declined from $85 to $67, rose to $82 60, and closed at $77. They continue to raise ore from the 600 level, and the developments are as favorable as last reported. In going south on the 400 level they met with encouraging prospects, and as soon as the connection is made with the 500 level of the Uncle Sam works they will be able to extract ore from that part of the mine. The 300 level gives a daily supply of 50 to 65 tons. For August the bullion receipts amounted to $28,000. On the 13th of the present month $2,816, and on the 14th $3,744 in bullion were sent forward.

ALPHA—fell from $50 to $35, then sold at $40, and closed at $39. A letter of the 15th says the incline is sunk at the rate of four feet per day. They commenced shipping ore, extracted from the 600 and 250 levels, to the Swansea mill, average assays of 23 tons on the 14th showing $43 25 to the ton....OPHIR sold at $18. On the 16th the shaft was 434 feet in depth.....The annual meeting of the SEGREGATED BELCHER CO. will be held on the 6th of October.....The annual meeting of the NORTH STAR CO. will be held on the 25th inst.

NEW HAMPSHIRE MINES.—In an address before the New Hampshire Legislature, Prof. Hitchcock said there was copper enough on Gardner's Mountain in Lyman, in that State, to last the country 200 years. and that the mines would be worked when those of Lake Superior were forsaken. He stated what is perhaps new to most people, that there is now in circulation in the country from $8,500 to $10,000 of New Hampshire gold coined at Philadelphia, and he thinks their mines may be profitably worked, especially by the use of the new material called "Stephens' Flux."

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE.
Amador Co., dividend, $5 per share		Payable Sept. 19
American		Annual Meeting Sept. 22
Bunker Hill, Amador co., May 19, $10	Oct. 6	Oct. 25
Bullion, Aug. 19, $10		Payable immediately
Belcher, Storey co., Nev		Special Meeting Oct. 1
Bacon, Storey co., Nev., div		Payable June 19
Belcher, Storey co, Nev., July 13, $25	Aug. 13	Sept 22
Chipioneva, Mexico, Sept. 7, $5	Oct. 9	Oct. 26
Cosala, Sinaloa, Mexico		Annual Meeting Sept. 21
Chalk Mt. B. G., Nevada co., Aug. 17, $1	Sept. 23	Oct. 12
Crown Point, dividend, $7 50		Payable July 11
Cherokee Flat, Butte Co., Sept. 2, $5	Oct. 5	Oct. 19
Diamond, Del Norte co., Feb. 4, $2	Oct. 7	Oct. 26
Daney, Lyon co. Nev., July 27, $2	Sept. 1	Sept. 20
Enterprise, Meadow Lake, Aug. 28, $1	Sept. 30	Oct. 17
Empire M. & M., Nev., dividend $6		Payable May 15
Gold Hill Q M & M—dividend, $7 50		Payable July 13
Golden Rule, Tuolumne co, div. 50c ₱ sh		Payable Aug. 23
Hope Gravel, Nevada co, July 30, $1	Sept. 10	Oct. 5
I. X. L., Alpine co., Aug. 20, $1.50	Sept. 19	Oct. 7
Imperial, Storey co., Nev., div		Payable June 18
Julia, Storey co., Aug. 24, $1.50	Sept. 28	Oct. 17
Kentuck, div., $30 per share		Payable Aug. 10
Kearsarge, Inyo co., Sept. 18, $1	Oct. 22	Nov. 10
Lady Bryan, Storey co., July 25, $10		Sale Sept. 25
Nevada County G. M. Co., Nevada co		Meeting Oct. 5
N. A. Wood Preserving Co., Sept. 3, 50c	Oct. 5	Oct. 27
North Star, dividend, $5		Payable Aug. 10
Earth Star, Nevada co		Annual Meeting Sept. 25
Oriental, Sierra co		Annual Meeting Sept. 21
Providence, Nevada co., Sept. 11, $2	Oct. 17	Nov. 5
Pacific Unassessable, div		Payable June 18
Rattlesnake, Yuba co., Aug. 7, $2	Sept. 10	Sept. 28
Rising Star, Idaho, Sept. 11, $7.50	Oct. 24	Nov. 25
Segregated Belcher		Annual Meeting Oct. 5
Silver Sprout, Inyo co., Aug. 4, $50	Sept. 4	Oct. 21
Santiago, Silver City, dividend		Payable Sept. 10
Savage, Virginia, Nev. dividend, $15		Payable July 15
Sand Spring Salt, dividend $1		Payable June 5
Virginia & O. H. Water Co		Dividend, payable May 15

Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD.

FRIDAY EVENING, Sept. 18, 1868.

MISCELLANEOUS STOCKS.	Bid.	Asked.
United States Bonds, 5 20s	$ —	—
Legal Tender Notes	69¾	70
California State Bonds, 7s, 1857	95	65
San Francisco Bonds, 10s, 1851	par & int.	
San Francisco City Bonds, 6s, 1855	—	—
San Francisco School Bonds, 10s, 1860	par & int.	
San Francisco School Bonds, 10s, 1861	par & int.	
San Francisco City and County Bonds, 6s, 1858	85	99
San Francisco City and Co. Sch'l B'ds, 7s, 1866	90	—
San Francisco City and Co. Bonds, 7s, 1862	89	—
San Francisco City and Co. Bonds, 7s, 1864	89	—
San Francisco City and Co. Bonds, 7s, 1865	89	—
San Francisco City and Co. Judg. Bds. 7s, 1863	90	—
San Francisco City and Co. Judg. Bds, 7s, 1864	90	—
Sacramento City Bonds	23	25
Sacramento County Bonds, 6s	70	73
Marysville Bonds, 10s	75	90
Stockton City Bonds	69	70
Yuba County Bonds, 8s	77	78
Santa Clara County Bonds, 7s	75	77
Butte County Bonds, 10s, 1860	70	75
San Mateo County Bonds, 7s	75	—
California Steam Navigation Co	58	70
Spring Valley Water Co	66	66¼
State Telegraph Co	25	29
GAS COMPANIES.		
San Francisco Gas Co	77	78
Sacramento Gas Co	—	75
RAILROADS.		
Sacramento Valley Railroad	—	—
San Francisco and San José Railroad	40	45
Omnibus Railroad	72	75
Central Railroad	55	58
North Beach and Mission Railroad	59	72
Front Street, Mission and Ocean Railroad	11	12
BANKING INSTITUTIONS.		
California, Loan and Savings Society	—	—
Pacific Bank	97½	100
The Bank of California	157	158
INSURANCE COMPANIES.		
Firemans' Fund Insurance Co	88	90
Pacific Insurance Co	120	128
San Francisco Insurance Co	—	105
Merchants' Mutual Marine Insurance Co	470	483
California Insurance Co	1300	1400
Union Insurance Co	89	90
California Home Insurance Co	—	—
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	79	80
National Insurance Co	77	—
Builders' Insurance Co	90	—
MINING STOCKS—WASHOE DISTRICT.		
Alpha	39	40
Baltimore American		
Belcher	130	135
Bullion, G. H.	9¾	10
Crown Point	54	46
Confidence	20	30
Cholar-Potosi	136	137
Daney	—	—
Exchequer	13	14
Empire Mill and Mining Co	115	120
Gould & Curry	89	91
Gold Hill Quartz	45	60
Hale & Norcross	47	48
Imperial	95	98
Kentuck	298	300
Lady Bryan	12	12¾
Ophir	17	18
Overman	77	78
Savage	83	84
Sierra Nevada	25	26
Yellow Jacket	1170	1175
Golden Rule, California	10	—

San Francisco Market Rates.

Wholesale Prices.

FRIDAY, Sept. 18, 1868.

Flour, Extra, ₱ bbl	$5 75 @ $6 25
Do. Superfine	5 25 @ 5 50
Corn Meal, ₱ 100 lbs	3 25 @ 3 50
Wheat, ₱ 100 lbs	1 65 @ 1 85
Oats, ₱ 100 lbs	2 15 @ 2 55
Barley, ₱ 100 lbs	2 25 @ 3 00
Beans, ₱ 100 lbs	3 00 @ 6 00
Potatoes, ₱ 100 lbs	90 @ 1 00
Hay, ₱ ton	10 00 @ 16 00
Live Oak Wood, ₱ cord	9 00 @ 10 00
Beef, extra, dressed, ₱ lb	8 @ 10
Sheep, on foot	3 00 @ 3 25
Hogs, on foot, ₱ lb	5 @ 6
Hogs, dressed, ₱ lb	8 @ 9
GROCERIES, ETC.	
Sugar, crushed, ₱ lb	14½ @ 15
Do. China	10 @ 11½
Coffee, Costa Rica, ₱ lb	— @ 16
Do. Rio	— @ 17
Tea, Japan, ₱ lb	75 @ 90
Do. Green	60 @ 1 25
Hawaiian Rice, ₱ lb	— @ 8
China Rice, ₱ lb	6 @ 6¾
Coal Oil, ₱ gallon	35 @ 40
Candles, ₱ lb	15 @ 17½
Ranch Butter, ₱ lb	40 @ 50
Isthmus Butter, ₱ lb	30 @ 37½
Cheese, California, ₱ lb	13 @ 18
Eggs, ₱ dozen	60 @ 62
Lard, ₱ lb	13 @ 14
Ham and Bacon, ₱ lb	12 @ 18
Shoulders, ₱ lb	5 @ 8

Retail Prices.

Butter, California, fresh, ₱ lb	60 @ 75
do. pickled, ₱ lb	30 @ 40
do. Oregon, ₱ lb	15 @ 25
do. New York, ₱ lb	35 @ 40
Cheese, ₱ lb	20 @ 25
Honey, ₱ lb	25 @ 30
Eggs, ₱ dozen	— @ 75
Lard, ₱ lb	15 @ 17
Hams and Bacon, ₱ lb	23 @ 25
Cranberries, ₱ gallon	85 @ 1 00
Potatoes, ₱ lb	2 @ 3
Potatoes, Sweet, ₱ lb	3 @ 5
Tomatoes, ₱ lb	3 @ 6
Onions, ₱ lb	3 @ 5
Apples, No. 1, ₱ lb	4 @ 6
Pears, Table, ₱ lb	5 @ 7
Plums, dried, ₱ lb	11 @ 13
Peaches, dried, ₱ lb	— @ —
Oranges, ₱ dozen	75 @ 1 00
Lemons, ₱ dozen	1 00 @ 1 50
Chickens, apiece	50 @ 75
Turkeys, ₱ lb	20 @ 25
Soap, Pale and C. O	7 @ 12
Soap, Castile, ₱ lb	15 @ 16

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

FRIDAY, Sept. 18, 1868.

IRON.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1¾c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2½ ₱ lb.

Scotch and English Pig Iron ₱ ton	$33 00 @ $34 00
White Pig ₱ ton	33 00 @ 34 00
Refined Bar, bad assortment ₱ lb	— 03 @ — —
Refined Bar, good assortment, ₱ lb	— 04 @ — —
Boiler, No. 1 to 4	— 04½@ — —
Plate, No. 5 to 9	— — @ — 04¼
Sheet, No. 10 to 13	— 04½@ — 5
Sheet, No. 14 to 20	— 05 @ — 5¼
Sheet, No. 24 to 27	— 05½ @ — 6¼
COPPER.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb	
Sheathing, ₱ lb	— 28 @ — 25
Sheathing, Yellow	— — @ — 22
Sheathing, Old Yellow	— 11 @ — —
Bolts	— 31 @ — 22
Composition Nails	— 21 @ — 22
TIN PLATES.—Duty: 25 ₱ cent. ad valorem.	
Plates, Charcoal, IX, ₱ box	12 50 @ — —
Plates, I C Charcoal	10 50 @ 11 00
Roofing Plates	10 00 @ 10 50
Banca Tin, Slabs, ₱ lb	— — @ — 30
STEEL.—English Cast Steel, ₱ lb	— — @ — 15
QUICKSILVER.—₱ lb	— 55 @ — 60
LEAD.—Pig, ₱ lb	— 7¾@ — 8
Sheet	— 10 @ — —
Pipe	— 11 @ — —
Bar	— 9 @ — 9¼
ZINC.—Sheets, ₱ lb	— — @ — 9½
BORAX.—California, ₱ lb	— 20 @ — 23

San Francisco Prices of Copper Ores.

SAN FRANCISCO, Sept. 11, 1868.

We give the following as an approximate price at which copper ores can now be sold in this city. There is no sale for ores which assay less than 12 per cent. The late reduction in price is on account of the advance of freight:

	Per ton.		Per ton.
12 per cent. ore	$15 00	22 per cent. ore	$43 50
13 " "	18 62	23 " "	46 46
14 " "	20	24 " "	49 33
15 " "	23 35	25 " "	52 22
16 " "	26	26 " "	55 11
17 " "	29 12	27 " "	58 00
18 " "	29 91	28 " "	60 80
19 " "	34 90	29 " "	63 77
20 " "	37 78	30 " "	66 66
21 " "	40 67	31 " "	59 55

These prices, we believe, will be found substantially correct, and can be realized at this date.

Receipts of the Fair.

TABULAR STATEMENT—OFFICIAL.

Thursday, August 6th	$ 121 50		
Friday, " 7th	417 00		
Saturday, " 8th..(1st day)	6,216 60	$5,754	00
Monday, " 10th	4,007 75		
Tuesday, " 11th	2,679 75		
Wednesday, " 12th	2,753 00		
Thursday, " 13th	2,131 25		
Friday, " 14th	2,150 75		
Saturday, " 15th	3,066 76	16,789	25
Monday, " 17th	1,806 50		
Tuesday, " 18th	1,602 60		
Wednesday, " 19th	1,394 00		
Thursday, " 20th	1,141 25		
Friday, " 21st	1,015 25		
Saturday, " 22d	1,831 76	8,691	25
Monday, " 24th	924 60		
Tuesday, " 25th	814 75		
Wednesday, " 26th	937 50		
Thursday, " 27th	863 25		
Friday, " 28th	704 25		
Saturday, " 29th	1,341 26	6,591	5
Monday, " 31st	814 00		
Tuesday, Sept. 1st	858 50		
Wednesday, " 2d	958 00		
Thursday, " 3d	969 25		
Friday, " 4th	872 25		
Saturday, " 6th	1,404 37	6,876	37
Monday, " 7th..($ 648 50)	296 50		
Tuesday, " 8th..(631 00)	296 50		
Wednesday, " 9th..(1,242 75)	296 50		
Thursday, " 10th..(768 00)	296 50		
Friday, " 11th	639 75		
Saturday, " 12th	1,000 00	2,826	75
Tickets sold outside, estimated		8,000	00
Received for privileges, etc		3,200	00
		$56,728	12

Blanks, Blank Mining Books

Constitution and By-Laws

— FOR —

Mining and Prospecting Companies

Elegantly printed, with care and dispatch, at the office of the **Mining and Scientific Press.**

Orders from the interior faithfully attended.

Mining Summary.

THE following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

WHETHER the scarcity of mining items during the past few weeks can be attributed to the fact that our mines are not paying so well as formerly, or that our exchanges take more interest in political than local mining matters, is a question we have been seriously considering lately. There has certainly been a falling off in our weekly summary, and that too at that particular season when we would naturally expect our exchanges to be overflowing with encouraging reports. Nevada County, always the most flourishing in mining matters, sends us as usual a long list of favorable items, also one or two other counties; but a majority of those from whose papers we are in the habit of clipping largely, come to us meager and frequently entirely innocent of an item to give us hope. We cannot think that our mines are failing, but rather attribute it to a fondness on the part of our cotemporaries to mix up in the filthy pool of politics. Now if this is the case, we object. Keep up your home interests, and politics, always lively enough of itself, will take care of itself. We hope next week to give a more complete summary of mining items.

CALIFORNIA.

Alpine County.

Markleeville *Miner*, Sept. 5th: The Globe tunnel is still cutting small veins of quartz, outlying feeders to the main lode, that look well.

We hear still more flattering reports of the recent strike in the Rippon claim. The quartz looks well and they seem to have a large body of it. No test of the ore has yet been heard from.

E. Arnold has sold one half of his interest in 3,000 shares of stock in the Leviathan Co. for $1,000.

Chronicle, Sept. 5th: Work will soon be resumed on the George Washington claim by its new proprietors, who are negotiating with Superintendent Thompson for the crushing of their ore at the Pittsburg mill. One hundred tons of rock are now ready for the mill, and if satisfactory arrangements are perfected, hands will at once be put on the mine under the superintendence of a gentleman from San Francisco.

An amalgamator from Gold Hill will next week commence putting the Pittsburg mill in order for crushing the IXL rock.

Amador County.

Jackson *Ledger*, Sept. 12th: Jones & Co., lately of Grass Valley, are erecting several English buddles for concentrating sulphurets, near the Oneida mill.

Further developments in the Casco mine confirm our former report. Enough has now been discovered to justify the immediate erection of a 20-stamp mill.

The Coney & Bigelow is following up its steady lick and yielding its regular bricks.

The Spanish mine, on Spanish Gulch, is again turning out some rich specimen rock.

The Gate mine, owned by Dr. Sharp & Co., is being sunk deeper with fair prospects.

At Sutter Creek, the mines are in the usual prosperous condition. It is said that the Mahoney is yielding unusually good, and that the Amador Co. contemplate sinking the two principal shafts still deeper.

At Pine Grove, the contractors on the Kendall have completed a 20-foot drift and are on another. Some excellent rock was found. Another 50 feet has been completed on the Vaughn mine tunnel, but the chimney not yet reached. The Sorroceo's "Italian" and Grass Valley mines are reported good as usual.

Young & Sorroceo Bros., of Volcano, cleaned up their hydraulic claim last week, after a run of 70 days, and the result was a yield of $5,000.

The owners of the Cosumnes copper mines have put up a smelting furnace, and are now working low grades of ore that has accumulated at their mine. The result, so far, has been very satisfactory.

On Tuesday last the new Kennedy 20-stamp mill was set in motion. Everything worked satisfactorily.

Calaveras County.

Mokelumne Hill *Chronicle*, Sept. 12th: Clark & Dudley, proprietors of the celebrated Hie Jacet claim, are evincing an energy unparalleled in its development. One day's labor has been performed during the past month, with the most satisfactory result. The motive power of the machinery employed upon the mine is conveyed to the claim in a bottle.

[How often does said *motive power* require the aid of said bottle?—EDS. PRESS.]

The Lower Rich Gulch correspondent writes: The additional battery of the Palomo mill is completed and commenced crushing on Tuesday the 8th inst. It is a most admirable piece of machinery. The sulphuret works are progressing towards completion.

Alexander & Co. are still going down with their shaft.

Preparations are being made to resume operations on the claim below.

Kern County.

Havilah *Courier*, Sept. 8th: We hear of good placer mines on Kern River, about four miles below Sumner's bridge. The dirt pays remarkably well. The bar is about 1,500 or 2,000 feet in extent; the ground is easily worked and water in abundance is easily obtained. There is no doubt that Kern River in numerous places will pay largely in placer mining.

Mariposa County.

Gazette, Sept. 11th: We learn that the copper mines at Buchanan Hollow, are to be worked with renewed vigor and energy by the gentlemen who have recently taken them in hand. Vilas & Co. have commenced operations on the right basis.

Nevada County.

Transcript, Sept. 9th: For sometime past a Frenchman has been engaged in putting up machinery at Canada Hill, for the purpose of working sulphurets by a new process. The works are now completed, and the experiments on gold sulphurets are said to be more than satisfactory. A gentleman who has visited and examined the works, informs us that they have operated with gold sulphurets and saved five per cent. above the fire assay. They have not yet commenced regular work, but are only experimenting on different kinds of rock. The Superintendent is satisfied with the experiments on gold sulphurets, and is now experimenting on silver sulphurets from the Yellow Jacket mine of Nevada. The parties have expended about $60,000 in fitting up the machinery.

Branbury & Stacy struck a very rich ledge in their claim at Graniteville, several days ago. The lead is three feet wide, and is very rich where they have opened on it in their tunnel. This claim is located near Black & Young's mill. Recently several rich strikes have been made in the vicinity of Graniteville, and there is considerable life in mining matters.

Sept. 10th: M. Jauch and others have located 2,000 feet on a quartz ledge southeast of Badger Hill, in Bridgeport township.

The Brick Top Co. have located 1,100 feet on Green Horn Creek, running back to the summit of Mt. Oro Hill. The claims adjoin those of Barnett & Co. The Brick Top Co. have also located the large ravine running through the southwest corner of their ground for fluming and mining.

O. Crandall arrived here yesterday on his way to Graniteville, to put up a 10-stamp mill on the Jim Crack ledge, owned by Bull & Getchell, of San Francisco.

The 15-stamp mill recently put up on the Eddy mine at French Corral, for the purpose of crushing cement, has been completed and will start up to-day.

The Moore's Flat correspondent writes: The Birchville Co. lately struck the ledge in their tunnel.

Morey & Wooldridge's late discovery promises to be one of the best ledges in the district. The Liberty Co. are running Poquilon's mill on their own rock, and are said to be doing very well.

Atwater & Knotwell cleaned up last week. The run yielded about $6,000.

The old Monogue Co. will have to suspend in a few weeks for want of fall. The claims of J. M. Hickey look first rate.

The Illinois Co's claims look better than they have done for years.

Thomas Dooling is working ground that is acknowledged to be rich. He will soon make a handsome clean up.

The Eagle Co. are about raising their shaft. The Piute Co. are working with fair success.

On Woolsey's Flat, the Boston Consolidation, XIX, and Shultes & Stober are in successful operation and are all doing very well.

Sept. 11th: Ben. Jones & Co. have struck a ledge near Gold Run, which is very rich. The lead runs parallel with the Mohawk, and the gold can be seen all through the rock.

Sept. 15th: The present season has been, on account of the high water in the Yuba, unfavorable to mining upon the bars, but the river is now down to low water mark, and at Rocky Bar and other points mining operations are resumed with fine prospects. Considerable prospecting is being done for quartz on the river above and between Washington and Eureka. The Star Co. are still pegging away in the hope of striking the ledge. At Phelps Hill, rich claims were recently struck, and at Gold Hill this side of Washington. We understand the companies at work are doing first rate.

Gazette, Sept. 8th: Charles Phelps, who has for three years past been running a tunnel at Phelps' Hill in search of a gravel channel, about six weeks ago struck excellent gravel. The gold is coarse, many of the pieces weighing a dollar or more, and one nugget weighing over $50 was picked up.

Grass Valley *Union*, Sept. 9th: "Sailor Jack," and a man known as "Jack of Clubs," a few days ago, struck a rich ledge at Graniteville. The ledge shows free gold in streaks and seams.

EXCELSIOR. — *Transcript*, Sept. 11th: After various trials of the Enterprise ore, Meadow Lake, by the ordinary mill process, the greatest yield obtained was five ounces out of 20 tons, and 160 pounds of quicksilver was lost. The Enterprise men resorted to the "Hagan superheated steam process," and after the first trial obtained 16 48-100th ounces from 20 tons of the same grade of rock, the gold being refined and worth $20 an ounce.

Some of the mines in Meadow Lake are being worked with good success. Lately the Empire Co. had 30 tons of quartz crushed at the California mill, which averaged $20 per ton in free gold, and it is supposed the yield of sulphurets will double the amount. The Mohawk and Montreal are taking out splendid rock in immense quantity. The Independent and U. S. Grant companies are also obtaining excellent rock.

Plumas County.

Quincy *National*, Sept. 10th: The miners on Rush Creek are enjoying a season of prosperity, and have flattering prospects for the future. Roedde & Co., below Holme's Hole, have been doing well lately—making an average of half an ounce per day to the hand. Serrin & Brown are, as usual, making money, and their claim will last a lifetime. Scherr & Co., whose claim is the upper one on the creek, are making good wages, and have fine prospects ahead. R. Guise is still on Bull Frog, and is taking it out in chunks. He picked up a piece a short time ago, weighing over seven ozs.

Several companies are at work on Mill Creek, and are doing well. Swan & Co. have just got a large water derrick in running order, and will throw the pebbles out of their claim in short order.

Siskiyou County.

Yreka *Union*, Sept. 12th: Mining, which was always the chief business at Scott's Bar, is rapidly being monopolized by the Chinese. So far the present season, no great amount of dust has been taken out. The mining is principally in the river, and is prosecuted by means of wheels, wing-dams, etc. The annual freshet did not visit this spot during the present year, and hence no mining has been done.

ARIZONA.

Prescott *Miner*, Aug. 29th: A correspondent writing from Willow Grove, says: Mr. Wade is rapidly pushing forward the work of putting up his mill, and hopes to be crushing quartz by the first of October. Mr. Otis, of San Francisco, owner of a 10-stamp mill that has been standing idle at El Dorado Cañon for the past two years, is actively engaged in getting out ore from the Teehaticup mine, and putting his mill in condition to work it. Mining operations will soon be resumed in the Sacramento district.

The Wickenburg correspondent says: The mills are turning out bushels of money; everything looks lively.

COLORADO.

Central City *Register*, August 27th says: The Sterling Mill, in Chase Gulch, has been thoroughly refitted and repaired.

Prof. Hill has been working some of the very rich ore taken from the Gilpin County Tunnel. The precise results are not yet known, but from $500 to $1,000, in silver, per ton, will be realized.

The proprietors of the Equator mine, at Georgetown, commenced to ship their first lot of 40 tons of ore to Newark, N. J., to be smelted.

The U. S. Bank lode, in Gold Hill, is reported as looking very promising, and producing more rich ore than ever before.

Yesterday we were shown by T. H. Lowe, of Idaho, some beautiful specimens of native silver from a lode recently discovered near Downieville. It was principally in fine, curly wires, that nearly covered the surface of one of the specimens.

Dr. Seaton has commenced work on his reduction works at Mill City. His mode of working consists in crushing, thoroughly freeing the ores from sulphur, then amalgamating.

Silver ore has been taken out, on Gold Hill, which assays between $7,000 and $8,000 per ton.

The Baker Mining Co., of Georgetown, will heat their furnace for the first time on Monday. It is a reverberatory furnace, with blast attached, and is capable of smelting six tons a day. It is finely constructed. The company have a large quantity of ore on hand, and are taking out an average of 3 tons per day, which, assays show, will average $1,000 per ton. They can at any time increase the supply of this ore to 6 tons, as it is already uncovered. This rich ore has been recently struck in two places, 300 feet apart, and when not mixed with gangue gives the assays reported a few days ago. In one place the rich ore struck is 170 feet from the surface; another is at the grass roots. The company have excavated since last Fall 800 feet of shafts and drifts. In the 170-foot shaft there is a body of ore 20 inches thick. The Brown Co.'s furnace will be ready to heat up a few days later. The average working results from its ores give $300 per ton from the upper drift, and $400 from the lower; $15,000 have already been shipped from this mine this Summer.

The Baker Co. recently commenced to drive a cross-cut, and have now struck a vein of ore 10 inches wide, which yields an average assay of $1,824 per ton; the highest assay made from it is $16,280 per ton. The ore is ruby silver and brittle silver, or stephanite.

Prof. Silliman, of Yale College, is here, examining the geology of Colorado, and collecting specimens for the cabinet of his college.

Denver *News*, August 26th: Silver ore has been found at Gold Hill which assays $7,000 to $8,000 a ton.

A dispatch dated to-day, at Trinidad, says: "Good mines struck within a mile of town; nuggets large as beans."

Sept. 2d: Four hundred ft. on the Perrin lode was recently sold in Central for $15,000.

The Five-Twenty mill at Oro City started on Monday last....Gulch mining is prosperous, the shipments of dust larger than heretofore this season. A new and valuable lode has been discovered by Captain Wetmore on the mountain just above Dayton.

Central City *Herald*, Sept. 2d: The Awanda lode, on Leaveuworth Mountain, is turning out to be one of the largest mineral veins in that locality, showing about two feet of ore....While at Georgetown the other day we saw 250 sacks of Terrible ore neatly put up and marked for the New Jersey Smelting Works. The ore is crushed and dressed at the mine, and from 50 to 75 lbs. put in each sack. The owners of the Equator are also shipping ore ...Dr. Scaton is running the mill formerly managed by Mr. McIntyre, of Mill City. We saw about a hatfull of amalgam there the other day....J. W. Nesmith has let the contract for the erection of a 20-stamp water mill, opposite the Tiger mill, on North Clear Creek....The last run made from Dead Broke ore, which was put through one section of the Black Hawk Co's 60-stamp mill, yielded $200 per cord, gold....The Pleasant Valley Co's claim on Russell, panned out, last week 111 ounces, gold, currency valuation $2,700....Richard Glennan is working claim No. 2 East, on the Mack lode, Gregory district, and taking out good pay. The ore is being crushed in the Arighi mill, above Black Hawk....Miller & Haeh are working the patch claims north of the German lode. It pays them about $7 per day to the man....John Bennet showed us, last evening, a fine lot of specimens of surface quartz from a lode he discovered yesterday in Lake Gulch. Present indications are that he has struck a big thing....The New York Co's 35-stamp water mill below Black Hawk, is being run this week on ore from three different lodes, situated in Illinois Central district, the most prominent of which is the Dunnegan.... A. C. Johnson is working two shafts on the Golden Eagle lode, Lake district. He is running the ore in the Cullison water mill at Missouri City. It is yielding at the rate of $270 per cord.

Borham Miller & Co. have reached a depth of 90 ft. on claim No. 1 East, on the Bates or Hunter lode. At that depth they have a fine body of ore in sight. They keep a portion of the New York Co's mill constantly employed crushing for them.

From a cord of ore, mixed with wall-rock, from the Illinois extension lode, run in the Whitcomb mill, recently, $187 gold was taken out.

Georgetown *Miner*, Sept. 2d: Huepeden, Walters & Co. have shipped, since our last

issue, 2,768 ozs. of silver bullion, coin value $2,734.79. More bullion is being produced by these works at the present time than ever before since their erection.... The Marshall tunnel is progressing finely.... Extensive developments are being made on the Astor lode, situated on the summit of Democrat Mountain. There is now out 150 tons of second class ore, that will probably yield $80 per ton, and 20 tons of first-class. There has been taken from the shaft and treated, one ton of ore that gave an average assay of 611 ozs., and eight tons that assayed 200 ozs.

DACOTAH.

Salt Lake *Telegraph*, Sept. 1st: Cozer, Roberts & Co's mill, at Sweetwater, made another clean up yesterday. One hundred and eighty tons of rock from the Miners' Delight ledge were crushed, realizing $13,000, being over $120 per ton. The first lot of rock crushed yielded a very fair quantity of gold, but this last lot claps the climax.

That little mill is doing splendid work, and will do more to develop Sweetwater than the reports of 10,000 hummers and deadheads.

IDAHO.

Boise *World*, Sept. 5th: The French Co. have finished their bedrock flume in Piko's Fork of Crooked river, upon which they have worked two years. At Banner City there are about 40 men engaged. Lester & Co. have completed two fine arastras, which are to be operated by an overshot wheel of 30 ft. diameter. Mr. Ankanm is superintending these arastras, and they will soon be engaged in crushing ores from the Banner ledge. Among those which prospect very richly is the Wolverine.

River bed mining at Deadwood Basin has resulted in a failure. The gold product was far below expectations, and not enough to pay even low wages. The hill, bar, gulch and other claims still hold out well, and good diggings will be afforded for many years. At present only about 40 miners are engaged in the Basin, and they are all making from wages to good pay.

Owyhee *Avalanche*, Sept. 5th: Wells, Fargo & Co. shipped from this city to San Francisco during the month of August, silver bullion to the amount of $133,152.

Another quartz discovery has been made in Flint, supposed to be an extension of the Rising Star.

Work progresses briskly on the Surplus Oro Fino. Fry, Clark & Basford have commenced work on the Little Giant, a few yard east of the Oro Fino. Some rich gold-bearing ore is being taken out.

Little work is now being done on the Ida Elmore, but operations will be resumed with redoubled vigor as soon as the new hoisting works are ready for use.

The Golden Chariot still "pursues the even tenor of its way." Sinker mill is kept running on rich ore. Everything at the Poorman wears an active, business air.

MONTANA.

Helena *Post*, Sept. 4th: On Cañon Creek, near the mouth of Tenderfoot Gulch, Crary & Co. cleaned up, without the aid of quicksilver, night before last, after two days' run from pay gravel, in dimensions ten by six feet and four feet deep, $500 in fine, clean scale gold, each piece weighing from 50 cents to $4, and free of quartz. There are now about 50 men at work in that vicinity, and the camp is proving itself to be one of the richest in this section of the country. Only four feet of stripping is required to reach the pay dirt.

Active mining operations are being prosecuted in the upper portion of Last Chance Gulch. On No. 9, above discovery, $17 per day to the man is being taken out, and still richer deposits of gold are believed to exist in No. 10, where a horse whim is in process of erection.

Several hundred dollars were cleaned up last week on the old bar near Boulder Crossing. In the second drain ditch, Lincoln Gulch, four claims have already been opened and are paying from $9 to $14 per day to the hand. The lower drain ditch is being pushed rapidly forward toward completion. A depth of 24 ft. has been reached, and it is expected that bedrock will be struck within four or five weeks. The drain ditch in Keep Cool, is to again receive attention, and rich results are expected. On claims Nos. 5 and 6, in Lincoln Gulch, a dividend of $250 each, above expenses, for one week's run, was recently declared. Some 25 workmen are employed in the claim.

The largest brick ever manufactured in the United States, outside of California, has been on exhibition at F. Bohm's. It was smelted for Bohm & Auh, and was worth $28,500.

The Virginia *Democrat* says: Radersburg anticipates having four quartz mills this fall. Walton & Barkley are about bringing in a new ditch, upon mines in the vicinity of the town mentioned. This ditch will supply water to 500 acres of ground that will pay from $4 to $25 per day to the hand.

The Deer Lodge *Independent* says: Prouse & Co. recently sold their mining property at Gold Creek, consisting of two water ditches, several mining claims, etc., to the Rock Creek Ditch Co., for $10,000 in gold. ....The James Stuart mill is to commence this week to crush custom rock....The Hanauer mill at Cable is soon to commence work on custom rock.

NEVADA.

Humboldt.

Unionville *Register*, Sept. 12th: From James Dunn, who is just in from Battle Mountain, we learn that Atchison's mill will be in operation in about 10 days; also that Atchison has made a fortunate strike in the development of his mine at that place. It promises to surpass the famous Little Giant belonging to McBeth & Co.

Mr. Munson who has been East organizing a company for the development of his mines in Gold Run district, comes back, prepared to erect a large mill in the vicinity of the mines, and contemplates going immediately to work on his mines at that place.

Both our mills are now kept running day and night, reducing ores from the Manitowoc and Arizona mines. A large force of miners are engaged in taking out ore.

S. R. D. Stewart went to San Francisco Monday last, to purchase a new mill for this place.

Winnemucca *Argent*, Sept. 10th: Holt & Elzy have moved the machinery of Holt's Winnemucca mill to this district and have men excavating a foundation for the new structure.

Reese River.

Austin *Reveille*, Sept. 10th: The mill of the Old Dominion Co. at Hot Creek, which was burned last winter, has been rebuilt, and is now successfully reducing ore from that district as well as from Reveille and Morey.

Sept. 11th: Yesterday afternoon seven bars of bullion, valued at $8,057.59, were brought into this city. They are the product of White Pine ore reduced at the Centenary mill in the district of Newark.

It is reported that a ledge of rich ore was struck in the Oregon shaft of the Manhattan Co. yesterday. It is presumed that the ledge cut is the North Star.

Nevada *Gazette*, Sept. 9th: We saw yesterday at the Union Hotel Saloon a couple of fine specimens of silver ore recently brought from Reese River by H. L. Dawley. One is from the North Star mine, and though not remarkably rich, is an elegant specimen for a cabinet. The other specimen came from White Pine, and though not particularly beautiful to the eye, is very rich. It is of a light greenish cast and assays at the rate of over $23,000 a ton. It is so rich that it cannot be crushed, but flattens out when hammered, and the silver can only be extracted by smelting the ore.

Grass Valley *National*, Sept. 9th: From a private letter dated Austin, August 24th, directed to a well known citizen of this town, from his brother, we have the following concerning the new mines in White Pine district, Nevada. From the Keystone ledge, or rather deposit, which is immensely rich, the owners have brought in and had worked here, about 37 tons of ore, which has netted them nearly $1,000 per ton. They have also about 50 tons equally good on the way in, and this is their second class. First class is estimated to go from $8,000 to $10,000 per ton, and I believe they have now 15 to 20 tons of it. The Eberhart ledge or deposit, close by the Keystone, is equally good. It is all deposits in limestone. They get a great deal of good ore from other deposits in the neighborhood. It will soon be overdone like everything else.

Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

NEW MEXICO.

The Mazatlan correspondent of the *Times* of this city, says: The mines are in a little better condition than a few months ago. Several miners are doing well in this State. I speak of foreign miners—the Mexican miners almost always do well. The Tayo, at Rosario, is probably the best at present; the Cosala S. M. Co., at Cosala, is doing well; and the Alcaran, at Copala, and the mines at S. Dimas and Ventanas very well. These are silver mines. There are no gold mines in this State yet known, that would pay to work. Those that have been worked at Cohorbatito, Arapahoe, Metates, Ahoys, and Cesala, proved very well on the surface, but worthless at a very little depth.

OREGON.

Dalles *Mountaineer*, Aug. 28th: The Cañon City correspondent writes: Within the past few days several of our prospecting parties have returned, and from their downcast looks it is quite evident that success did not crown their efforts; and the rich gold fields that lay around Stein's Mountain faded from their view, and nothing was to be found but vast sage plains. They all join in pronouncing Stein's Mountain a humbug. From Malheur nothing definite is yet known. The reports are so conflicting that it is impossible to arrive at anything conclusive, yet it is believed good diggings exist in that locality. Rumor says that rich diggings has been struck on Selvage and Crooked rivers.

The new mines recently struck on Little Pine Creek, are creating a sensation.

At Marysville there has been some very profitable runs made this season, which is quite encouraging. Mr. Hare & Co. cleaned up after seven days' run—working but 11 men—near $12,000; Thompson & Co. have also been quite as successful.

The Roseburg *Ensign* says: Jesse N. Barker has presented us with the first silver brick taken from the Bohemian mine. It is a nice specimen of pure shining silver, taken from quartz first roasted, then crushed and separated from the rock with quicksilver. The yield, in accordance with this assay, would be $1,600 to the ton, and is easily gathered and saved. There is no doubt now but that Bohemia is one of the richest districts yet discovered on this coast. We were also shown by him some fine lumps of gold from the same rock.

UTAH.

A correspondent of the Belmont *Reporter* writing from Bingham Cañon, under date of Aug. 18th, says: Times are improving here very much, although there are not so many miners here as there were a few months since, yet those that are here have good claims, and know how to work, and, consequently, are taking out considerable gold. One person, who is working just above Spencer & Co's claim, took out, last week, nearly $500. He has four men employed, and is working a drift claim.

Resources and Position of Alaska.

Several Congressional documents have reached us, containing valuable information on this subject. The most important is a geographical and geological report by Prof. Wm. P. Blake, who, at the expiration of his engagement with the Tycoon's Government in 1863, accompanied a Russian expedition to that coast, explored many of the harbors, and made a survey of Stickeen river. It contains a map of that river, and some illustrations of glaciers.

The report furthermore describes the coast of Alaska, in the vicinity of Sitka; the mineral resources, comprising coal, copper, gold and platina; the ice and glaciers along the coast; the Stickeen river country; currents and navigation; the geology and mineralogy of the country; the climate; fish and game; and concludes with a reproduction of his journal up Stickeen river, to which are appended a tabular exhibit of the fur productions of Russian America, and a list of Indian geographical words that will be found of use to coasters.

N. P. Banks, in his speech on the purchase of Alaska, said:

It is at least probable, if not certain, that if the war in which we were recently engaged there had been a failure of our Government promptly to maintain its power and position, Russian America might in the end have gone to England, Mexico to France, and the Pacific coast would have been divided between them, as events might have allowed their great objects to have been accomplished. * * * Gov. Simpson said in reference to this strip of Russian America which had been leased by the Hudson Bay Company from the Russian Government, that without it the British possessions on the Pacific would be comparatively worthless. It was leased upon that view by the Russian Government out of regard for the English interest on that coast. * * * Napoleon said the art of war should be changed every ten years. Every twenty or thirty years new ideas appear, new principles are announced. The government of the world changes once or twice every century, and the theater of human history is transferred to different parts of the globe in the course of one or two centuries. A change of this character is now dawning upon us. Hitherto the Atlantic ocean has been the theater o. its power and its triumphs. It has been the great ocean of the world. Those on one side and those on the other made it whatever they chose. They gave to it law. It was in fact an European sea. The control of the world hitherto has been in European hands, because Europe was the sovereign of this great sea. So long as the Atlantic ocean controls the destinies of men, so long the destiny and the idea of that control will be European, and so long as it is European it will stand in the way of the progress of civilization and bar the movements of the people to the acquisition or the resumption of the power that by the laws of nature belongs to them. How can it be changed? By intervention, by war? No sir. The providence of God arranges other means for the control of the great families of men than such methods of violence. The changes in the theater of operation point out new fields, new pastures, green and beautiful, to which the children of creation may go. They come from the Atlantic, and they take their position upon what is called the great ocean of the world—the Pacific ocean. That with the Indian ocean, which is part of the Pacific, so spoken of by geographers, covers one hundred million square miles, and rolls between six hundred million people (Asiatics) on one side and about three hundred million (Americans and Europeans) on the other. That ocean will be the theater of the triumphs of civilization in the future. It is on that line that are to be fought the great battles of the hereafter. It is there that the institutions of this world will be fashioned and its destinies decided. If this transfer is successful, it will no longer be an European civilization or an European destiny that controls us. It will be a higher civilization and a nobler destiny. It may be an American civilization, an American destiny of six hundred million souls. Across that great ocean of the future there is not one that is not a friend of this country, nor a government that is not willing to strike hands with us in any just movement for any just purpose. Russia, China, Japan, India—so far as she is left to herself—even Turkey, the whole of these powers have been and are and still may be, even to the end, friendly to us. As for ourselves we have nothing to fear from Europe. In this future and in the presence of these powers Europe loses, as every nation in time loses, her prestige and becomes subordinate to the new powers in the progress of human civilization and the destiny of nations.

Zinc From Missouri.—Missouri has not only her mines of iron ore, her veins and placers of galena extending over some 6,000 square miles of territory, 26,000 square miles of coal area, and croppings of rich copper ore that have been discovered in some fifteen counties; her rich ores of zinc, carbonates and silicates, occupy no subordinate position in her mineral treasures. The time, it seems, has arrived, when ingots of metallic zinc can bear substantial testimony to the opening up of a new industry. The new works are located at Potosi, a short distance from St. Louis. The supply of zinc ores in Missouri is said to be immense. Capital has been successfully invested in them, and we may hope for the development of an industry that will not only make itself felt through the whole country, but also give to the State eventually a prominent position as regards the zinc trade of the world. The Missouri cobalt and nickel mines are still unworked.

Chinamen as Printers.—The Hong Kong *Press and China Mail* are owned and edited by Englishmen, while the compositors, pressmen, mail clerk, etc., are Chinese. There are some twelve or fifteen of them employed in the composition room of the *Press* office, who set six to nine thousand ems per day each. Notwithstanding these compositors set type, not a single one of them understands a word of English, and they have not the faintest idea of what they are placing in type. They set manuscript with as much facility as they do reprint, and but few American printers set type faster, or with less errors. These printers consider themselves well paid when they receive $15 per month.—*Exchange.*

North Shore of Lake Superior.—A new mining corporation has been organized to prosecute work on a gold and silver vein near Encampment Island, on the north shore of Lake Superior, thirty miles northeast of Superior City. A force of miners are at work developing the property under the superintendency of Prof. Eames, late geologist of the State of Minnesota, assisted by Mr. Mayhew, a practical mining superintendent, who was formerly employed by one of the Vermillion gold mines. The vein shows well, being 30 feet in width, N. W. by S. E.

Mining and Scientific Press.

W. B. EWER,.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

DEWEY & CO., Publishers.

OFFICE—No. 414 Clay street, between Sansome and Battery.

Terms of Subscription:

One copy, per annum, in advance,.....$5 00
One copy, six months, in advance,..... 3 00
☞ For sale by Carriers and Newsdealers. ☜

WRITERS should be cautious about addressing correspondence relating to the business or interests of a firm to an individual member thereof, whose absence at the time might delay.

Our Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

Dr. L. G. Yates is our duly authorized traveling agent. July 8, 1867.

Mr. A. B. Butler is a duly authorized traveling agent and correspondent for this paper. July 15, 1867.

San Francisco:

Saturday Morning, Sept. 19, 1868.

Notices to Correspondents.

CHEMICAL GEOLOGY.—We have for some time had in hand, through the favor of his relative, Mr. M. Attwood, of this city, a copy of Mr. David Forbe's lecture on this subject. The space occupied by the description of the various articles exhibited at our Industrial Fair, and that required by the State Fair, has hitherto prevented our inserting tbe same, which we commence *in extenso* this week. There is one expression, however, in Mr. Forbe's lecture which we would like to have explained, if possible, by the time we have completed its re-publication. Mr. Forbes, as one of bis illustrations asks: "I leave it to the (Chemical) Society to decide whether it is uot as correct reasoning to infer hy analogy, that quartz may have crystallized out of a solution of silica in highly acid silicates upon a lowering of temperature, as that the graphite in the specimen on the table before us has crystallized out of *a solution of carbon from cast iron, upon its temperature being lowered, which we know to be the fact.*" We are aware that if we inclose diamond dust or charcoal between two pieces of pure iron, and subsequently subject them to a very elevated temperature, the diamond powder or charcoal will disappear, having become united with the iron to form a carburet of that metal, which would be either steel or cast irou, according to the quantity of carhon ahsorbed by that metal. The phenomenon is well known in steel making, under the somewhat ambiguous term "cementation." In the union of iron and carbon just noticed, however, we have never seen it demonstrated, that either prior or subsequent to such combination, the carhon in any case becomes liquefied. Steel or cast iron can be fused, but in sucb cases, the carbon present is in the form of a compound carburet of iron.

BORER.—A NEW EXPLOSIVE AGENT.—"Dynamite is the name of a new explosive agent, consisting of porous silica, saturated with nitro-glycerine, which is just now attracting the atteution of those who are interested in quarrying and mining operations. A series of experiments, which took place the other day in Lanarkshire, is said to have proved that the exploding of dynamite is about tbree times greater than that of gun cotton, or some twelve times greater than that of gunpowder. A couple of tablespoonfuls laid quite loose on a thick beam proved sufficient. when fired, to break the timber right across, and project one of the fragments to a considerable distance. A charge of six pouuds exploded in a borizontal bore brought down about 4,000 cubic feet of whinstone rock. In another experiment a block of wrought iron, measuring nine inches by eight, was placed vertically in the ground, and a quantity of dynamite, covered only with loose rubbish, exploded on its upper surface. The result was to couvert what had been a convex surface into a concave one, the mass of iron being at the same time split in several places. Although dynamite contains 76 per cent. of nitro-glycerine, it is said to be as safe as gunpowder against explosion by concussion." The preceding, is quoted from an English paper, which does not explaiu what it meaus by porous silica. In other papers and journals, we have seen pulverized vegetable matter named in place of silica. We believe Cutch and Gambia have been patented for this purpose.

Corrosion of Iron.

An important economical consideration in the selection of an article so costly as iron for underground mining and hydraulic purposes, where it is exposed to the corrosive influences of water containing acid or alkaline ingredients, is its duration against oxidation; which is known by all who have had any experience in mining to vary in an extraordinary degree, depending firstly on the kind of water or gases to which it is exposed, and secoudly upon the character of the iron which is used for such purposes.

Formerly it was assumed that iron was subject to a rapid corrosion when immersed in water, or exposed to the alternations of the water and the atmosphere, and the every day experience of constructors seemed to confirm tbis opinion. Cast iron water pipes in city streets are frequently fouud greatly corroded; and cannon shot, immersed in sea water for half a century, and sometimes less, have been found with the mass of the metal entirely changed from iron into plumbago, or deeply pitted by oxidation. But frequent very noteworthy exceptions have been observed. The cannon of the Royal George, which had heen submerged half a century, when first taken out were so soft that the metal could he cut with a knife, but immediately hardened on exposure to the air, and were again fired; while some muskets and cannon, sunk in Lake Erie and Ontario, during the war of 1812, were, forty years afterwards, found to he but slightly rusted.

Mallet's well-known experiments in 1810, showed tbat iron exposed to water holding air in combination corrodes on the surface either uniformly or in places, by rust or by the conversion of the iron into plumbago, and that corrosion depeuds upon the want of homogencousness of the surface, or in its density or hardness, or in the combination of the carbon with the iron.

This subject was very thoroughly discussed by some of the most eminent engineers of the London Engineer's Society in 1862, and numerous cases were cited both of corrosion and its absence in iron under water, and the cause explained. The examples then stated, and numerous others, showed that cast iron of a particular descriptiou corroded rapidly, or changed its structure, by a few years' immersion in foul or salt water, while other irons were entirely unaffected when exposed in the same way for twenty, thirty, and forty years. The members stated that wherever this corrossion or decomposition had occurred, it was wholly due to the quality of the iron. The engineer has, therefore, only to select that of a proper quality to insure durability.

Cast iron, to resist corrosion to its greatest extent, should be as hard as the case will admit, of an even, close grain, and with the carbon combiued, and not in tbe form of graphite. Impure soft fonndry iron will corrode rapidly; close-grained grey iron, of an even texturo, will resist corrosion in the most exposed places without sensible injury, and white iron of good quality may, for all practicable purposes, he considered as imperishable in such situations. Care should also be taken not to place iron in contact witb other metals, so as to produce galvanic action.

It is well known that many cast iron water mains have corroded greatly, not only externally but internally. In the latter case tbe oxidation sometimes takes the tubercular form, where the rust is collected and aggregated in hard knobs.

The internal corrosion, however, where the iron is exposed only to the action of pure water and a small amount of air in combination, will not occur to any appreciable degree, if the iron is of the proper quality.

The strength of cast iron pipes, of the usual thickness, is so far beyond the pressure of the water aud occasional percussions, that the manufacturers seem to think that the weakest metal will answer; and the miners have not yet, in their specifications and inspections, required enough care in the selection of the metal best calculated to withstand corrosion.

Institute Fair Premiums.

The following is a list of the gold and silver medals that were awarded at the Mechanics' Institute Fair:

GOLD MEDALS.

First Class—To the Pacific Foundry, for best steam engine.
Second Class—To Coffin & Standish, for steam plow.
Eighth Class—To San Francisco Lead and Shot Works, for manufactured lead-pipe and shot.
Ninth Class—To C. Newman, of the San Francisco Glass Works, for best manufactured glassware.
Thirteenth Class—To Vanderslice & Co., for best California-manufactured silverware.
Fourteenth Class—To S. P. Taylor, for California-made paper.
Fifteenth Class—To George P. Kimball & Co., for California wagons.
Sixteenth Class—To Main & Winchester, for California-made saddlery and harness.
Eighteenth Class—To Wigmore & Palmer, for best California-made office furniture.
Twentieth Class—To Pacific Oil and Lead Works, for California-made oil and paints.
Twenty-second Class—To Jacob Zech, for California-made pianos.
Twenty-seventh Class—To B. N. Bugbey, of Folsom, for California wines made from foreign grapes.

The inventors' gold medal was awarded to Coffin & Standish, for the most valuable invention—a steam plow.

SILVER MEDALS.

To Union Foundry, for steam engine.
To Robert L. Harris, for Carvalho's steam superheater.
To Goff & Bishop for California-invented crank-pin and cross-head lathe.
To Baker & Hamilton, for sweepstake gang-plow.
To J. S. Detrick, for eccentric chuck.
To M. D. Laswell, for force-pump.
To H. W. Calvert, for dental goods.
To M. M. Cook & Son, for California-made artificial legs.
To Pacific Rolling Mill, for rolled iron.
To Pacific Saw Manufacturing Company, for California-made saws.
To W. T. Garratt, for California-made brass work.
To Golden State Pottery, for California-made pottery.
To Skinner & Flick, for California-made sanitary pipe.
To J. B. Boyd, for display of California laurel wood.
To G. Kustel, for collection of minerals.
To Oregon Iron Works, for Oregon pig iron.
To Haynes & Lawton, for California silver-plated ware.
To R. F. Rocchiccoli, for California silver-plated and gilded ware.
To H. H. Bancroft & Co., for California publications and ink.
To W. B. Cooke & Co., for California blank-books and ruling.
To A. Foreman, for improved type-machine—a California invention.
To A. Folsom, for buggies and wagons.
To George A. Brush, for samples of grained doors.
To Whittier, Fuller & Co., for California-made mirrors.
To P. Leisenfeld, for billiard tables.
To N. P. Cole & Co., for California-made furniture.
To Goodwin & Co., for California upholstery.
To Standard Soap Company, for soaps and candles
To F. E. Mills, for anthrophotoscope—a California invention.
To G. Rudolph, for California-made piano.
To Pacific Woolen Mills, for knit goods.
To Adolph Muller, for best display of manufactured furs.
To J. Neuman, for display of California silk.
To L. Prevost, for display of cocoons.
To Meyer, Jonasson & Co., for cloaks.
To Ladies' Co-operative Union, for display of needlework.
To J. R. Snyder, of Sonoma, for California redwood
To Isadore Landsberger, for California sparkling wines.
To B. D. Wilson & Co., for California port wines.
To Daniel L. Perkins, for vegetable seeds.
To California Sugar Refinery, for best refined sugar.
To Mrs. M. E. Gerrish, for wax flowers.

The inventors' silver medal was awarded to Charles Newman, for patent glass-melting pot.

The Institute Medal was awarded to the Pacific Tannery and Boot and Shoe Company, in view of the excellence of their work, the immense advantage which the people of California derive from their manufacture, and the benefit which is destined to accrue to tbe industrial interests of this State by the encouragement in its various forms of tbis branch of domestic enterprise.

Appropriate remarks were made by Mr. Hallidie and ex-Governor Low, in connection with the award of premiums and the termination of the Fair.

The list of diplomas that were conferred has not yet been completed, and will appear next week.

SMELTING IN INYO COUNTY.—We learn from Mr. Chas. A. Aaron, of Lone Pine (date of Angust 30th), that Desormeaux, at Cerro Gordo, bas started his large furnace, and got out seven tons of lead in five days, worth from $300 to $400 per ton. Tbe fire-clay proves excellent. Telshaw's furnace will be ready in a few weeks. Clark's furnace has failed for tbe present, but will he repaired. Water is sufficient for present demands. Owens Lake has risen since the earthquake on June 24th, and is still rising at the rate of about a foot a week.

AT THE STATE FAIR.—Mr. George Spaulding will represent the interests of the MINING AND SCIENTIFIC PRESS at Sacramento for a few days, at the State Fair, reporting, giving information to inventors, receiving subscriptions, etc.

CONTINENTAL Life Insurance Company, 302 Montgomery street, corner of Pine.

[From the Mechanics' Fair Daily Press, Sept. 12.]

Close of the Fair.

After to-night's proceedings the Fair of 1868 will belong to the past. It has been open for 31 days, not counting Suudays, and has beeu visited by from 200,000 to 300,000 people, if we couut in repeated visits hy the same individuals on different days as distinct visits. The receipts will exceed the expenditures by about $20,000.

Everybody is pleased with the way in which the Fair has heen conducted; and among those who have had occasion to make frequent visits to the Pavilion there is not to be overlooked, in the pleasant thoughts of tbe last day, the recapitulation in each one's mind of a host of intelligent and valuahle acquaintances.

The Managers, consisting of the officers aud directors of tbe Mechanics' Institute, have performed their especially laborious duties regularly and quietly, and without taking any especial pains to let the public know how much they have been laboring in their behalf, without the hope of reward. Such services, however, are always remembered by the commuuity, and are never thrown away. Without pulic spirited men there could be no San Francisco, and no California.

The relations between the Managers and exhibitors, it is scarcely necessary to add, have been very agreeable. For ourselves we can only say that we are gratified with the friendly manner in which the FAIR PRESS has been received and read by everybody, and with the liberal advertising patronage hy which it has heen sustained. Being identified specially with all that tends towards the development of the resources of the Pacific Coast, our interest and policy are to assist everybody to benefit and help berself, and we doubt not that our success will ever be proportionate to the degree of our usefulness.

The Blanks.

An inviting field for everyhody, hut especially for the capitalist and the student of political economy in California, is presented in the blanks in our industry, which are suggested iu connection with tbe Fair. Everyhody has observed how the former blanks,—of but a few years ago,—have been filled up, aud what astonishing results have been obtaiued in our midst in a short time; as well as the certain and ample reward of a little judgment in recognizing new wants of the community. The suggestions of the Fair are alone worth all that it has cost. We have not only been able to survey what has heen done, but to see more clearly what ougbt to be done.

Amongst these inevitable branches of industry which are not yet developed, we might mention flax and hemp culture, and their manufacture into linen and cordage; tbe tanning of tbe finer kinds of leather; iron smelting and forges to make wrought iron, steel, nails, etc.; lead and zinc production; the preservation of fruits and meats; tbe manufacture of clothing on a large scale, etc. There are certain wants recognized, and more that could be created, in China and Japan, which can only be supplied by Caucassian artisans for generations to come; and our tributary population embraces everything round the circuit of the Pacific Ocean, and eastward as far as the Rocky Mountains. Changes in wealth and occupation are rapid and frequent in our midst,—a state of things affording the most liberal encouragement to enterprise, the greatest facility for every one to find his proper place, and the highest rewards for intelligence and for executive talent.

FORD'S ROCK-BORING MACHINE has created some interest at Victoria, Australia, where it is said to have done work 75 per cent. faster, and one-half cheaper than can be done by hand labor. It is a common drill, operated by hot air.

THE PACIFIC WOOLEN MILLS.—This comparatively new manufacturing company made a very large and fine display at the Fair. They exhibited shirts and drawers of every size and variety,—all wool and merino,—also hose and half hose for men, women and children, consisting of all grades from the cheapest to the highest priced and best quality in the market. As these goods were gotten up with the greatest care and in the very best style, they will be found better than any similar articles of Eastern or foreign importation, affording the best satisfaction to the wearer. Those wishing to procure this class of goods, will find it economy to examine them before purchasing elsewhere.

MACHINE WORKS for the manufactnre of mill and mining machinery, steam engines, etc., have been opened by Messrs. Hawkins & Cantrell, at Nos. 210 and 212 Beale street, between Howard and Folsom. This firm are ready to guarantee all work turned out at their establishment, having had much experience in this line and being well acquainted with the different styles of machinery required by the community. See their card in our advertising columns.

CAUTION.—It would be well for those in the country who are afflicted with diseases and nervous difficulties, when they visit the city to find a doctor, to understand that there are more than one or two physicians who are successful in curing diseases if they do not belong to the Medical Institutes; and probably there would be a saving of time and money to try some one of the reformed practice before being burned, blistered and calomized; and that the *Electro-Magnetic* treatment, in some of the several forms, vapor baths, etc., is the safest, surest and best method, as applied by Dr. Benton, Congress Hall Buildiog, *Bush street*, San Francisco. *

DELICIOUSLY MEDICINAL.—This is the universal verdict pronounced upon PLANTATION BITTERS by all who have tried them. The well-known health-promoting ingredients from which they are made, and their invaluable merits as a remedy for indigestion and all its consequent ailments, and the preventive qualities against diseases arising from climatic changes, mismatic influences and imperfect secretions, are so widely known and so honorably endorsed, that we trust no one will forego the advantages of their use. *

WANTED—At this office, the postoffice address of Enraght Massey, late of Gold Hill, Nevada.

NOTICE.—Persons interested in locating Mineral Lands in California or Nevada, will do well to observe the advertisement of N. Wescoatt, S. & M. E., in another column.

SAVE YOUR TEETH.—Drs. Jessup & Beers, over Tucker's Jewelry store, are now making a specialty of filling the fangs of dead Teeth, and building up broken crowns with *pure gold*—thus restoring them to their original usefulness and beauty. They are also using Nitrous Oxide for the painless extraction of Teeth, when so desired—the only absolutely safe anæsthetic ever discovered. In breathing it, it acts as a gentle stimulant, without undue excitement,—the sensation produced being truly delightful, the effect upon the lungs healthful, and in its results positively free from all danger. Prepared and administered daily at the Dental Rooms of Messrs. JESSUP & BEERS, corner Montgomery and Sutter streets, San Francisco. 16v16tf

IT
will heal
old sores, piles,
ulcers, cancers,
salt rheum, and break-
ing out on any part of the
body, and also removes pain
of every name or nature instant-
ly. It is a harmless liquid, and leaves
no smart or stain, and is called Moore's
Pain Paint. For catarrh and colds in the
head, Moore's catarrh remedy affords a safe,
sure and speedy cure. Both remedies sold
by druggists everywhere, and at Moore's
office, 652 Market street, northeast
corner of Kearny, where all pain
is instantly removed, free
of cost, as hundreds can
now testify from ac-
tual tests.
8v17-3m

WHERE TO ADVERTISE.—The attention of traders and mill machinists is called to the fact that the *Mountain Messenger*, of Downieville, Sierra County, possesses many special advantages as an advertising medium over a majority of the interior press, it being the only public journal published within a radius of sixty miles, in the richest and most populous mining sections of the State. Its weekly edition is double the average of country papers, being without the range of large dailies, and having no competition at home. Its local columns afford many items for our city cotemporaries, while its rates of advertising are reasonably low. 10v17tf

NORTH AMERICA
Life Insurance Company.

Usual Restrictions on Occupation and Travel
ABOLISHED!

Policies of this Company are guaranteed by the State of New York, which is true of no other Company on this Coast.

The most Responsible and Liberal Company in the World!

J. A. EATON & CO.,
Managers Pacific Branch, 302 Montgomery st.
20v14nr9p SAN FRANCISCO.

Builders' Insurance Company—OFFICE IN THE BUILDING OF THE CALIFORNIA SAVINGS BANK, California street, one door from Sansome street.
☞FIRE AND MARINE INSURANCE. 10v14t9pqr

Support Home Manufactures.

California Pioneer Fuse
MANUFACTURING COMPANY,
MANUFACTURERS OF
HOSE AND TAPE FUSE,
A New and Superior Article for Blasting in very wet ground, or under water.

Great difficulty has heretofore been experienced by miners, and others in the use of Fuse, which has been subjected to deterioration from exposure to dampness during transportation, or during the great length of time which has passed between its manufacture and use. In addition to great painstaking in the manufacture of the California-made Fuse, the above and many similar objections are entirely obviated, and the operator can always depend with certainty upon the burning of his fuse.

It is often the case that extra lengths are required, as exploding tunnels, etc., longer than is furnished in the imported article. Fuse of every desired length or size can be made to especial order, at the above manufactory.

Manufactory, - - - - Potrero, San Francisco.
JOS. POWNING, Sec'y. JAS. EVA, Supt.
17v16 9ptf

PACIFIC
Rolling Mill and Forge Co.,
SAN FRANCISCO, CAL.

Established for the Manufacture of
RAILROAD AND OTHER IRON
—AND—
Every Variety of Shafting,
Embracing ALL SIZES of
Steamboat Shafts, Cranks, Pistons and Connecting Rods, Car and Locomotive Axles and Frames
—ALSO—
HAMMERED IRON
Of every description and size.

☞Orders addressed to PACIFIC ROLLING MILL and FORGE CO., Post Office, San Francisco, Cal., will receive prompt attention.
☞The highest price paid for Scrap Iron. 9v143m9p

REBELLIOUS ORES.

Parties interested in the treatment of
REBELLIOUS GOLD OR SILVER
ORES
—ARE INFORMED THAT THE—
Hagan Furnace Process
Is now in successful operation at the
ENTERPRISE MINE,
NEAR CISCO,
And they are respectfully invited to examine the working of the same.

For particulars, inquire of W. A. WILLIAMS, Superintendent, at the mine, or address
PACIFIC ORE COMPANY,
P. O. Box 1019, San Francisco.
September 11, 1868. 11v17-2w

A Book for Every Miner and Scientific Man.
JUST PUBLISHED,
KUSTEL'S NEW WORK,
CONCENTRATION
Of all kinds of Ores, and the
CHLORINATION PROCESS,
For Gold-Bearing Sulphurets, Arsenimets, and Gold and Silver Ores generally.

Price, - - - - - $7.50

A liberal discount to the Trade. For sale by the Booksellers Sent to any part of the United States, postage paid, on receipt of the price. Address,
DEWEY & CO., Publishers,
Office of the Mining and Scientific Press, 414 Clay street,
16v1tf SAN FRANCISCO.

Wanted.
A situation as an Amalgamator and Assayer, to take charge of a Quartz Mill. Best Reference given. Address "Assayer," at this office. 12v17-1t

New Potato Digger.
Parties interested in saving considerable time and money by using the
PACIFIC
POTATO DIGGER AND SACKER,
Should not delay the present opportunity of having one in time for the late Potato crop this season.
☞Liberal terms to Farmers' clubs ordering more than one. This arrangement secures to members in rotation the great benefit of a machine, and materially reduces their outlay. A Potato Digger of this kind is sufficiently strong for general ranch purposes, and will dig, clean and separate, according to sizes, and sack six to seven acres of potatoes daily, besides the important saving of so much time, and at less than half the cost of the present expensive and dilatory method by hand.
It would require one man from forty to fifty days to accomplish the same amount of work.
A WORKING MODEL may be seen from 11 to 12 and from 1 till 6 o'clock daily, in operation until the 10th of October, at Risdon's Machine Works, corner of Beale and Howard streets, San Francisco.

N. W. SPAULDING,
Saw Smithing and Repairing
ESTABLISHMENT.



Nos. 17 and 19 Fremont St., near Market,
MANUFACTURER OF
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Patent Tooth Circular Saws,
They have proved themselves to be the most durable and economical Saws in the World.
EACH SAW IS WARRANTED IN EVERY RESPECT.
Particular attention paid to construction of
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July 16, 1868. 3vt7-1m

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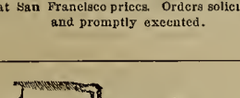
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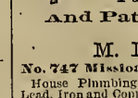
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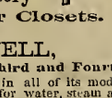
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House Plumbing and Gas Fitting in all of its modes. Lead, Iron and Copper Piping fitted for water, steam and gas. Ship Plumbing, and Ship Pumps made and repaired Hose of all sizes, Couplings and Nozzles, Roses and Rose Stands, and all kinds of Brass Cocks. Force, Lift and Suction Pumps of all sizes made and set to order.

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Having been established since 1851, we have accumulated a very large variety of Gear and other Patterns, which, with our superior tools and appliances, give us facilities for doing first class work unequaled on the Pacific Coast.

Among other things, we manufacture the following:

STEAM ENGINES,

Horizontal and Vertical, for either Stationary or Marine use.

BOILERS—High and Low Pressure,

Pump, Pipe and Sheet Iron Work of every kind.

Quartz Mill Work,

Including High and Low Mortars, for wet or dry crushing; Furnace Irons for Roasting Ores; Freiberg Barrels; Varney's and Wheeler's Amalgamating Pans and Settlers; Stamp Shoes and Dies of best White Iron; Russia Iron Screens, etc., etc.

Flour Mill, Saw Mill and Sugar Mill Work in every variety; Pumping and Hoisting Machinery; Burnsbow's Patent Challenge Pump, for Domestic, Ship and Mining use—the most approved and successful Pump manufactured.

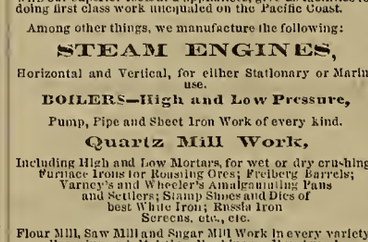
Castings of every description, Iron and Brass.

We would call especial attention to "Wright's Patent Variable Cut-off Engines," of which we are the sole manufacturers on the Pacific Coast, under license from the Woodruff & Beach Co., Hartford, Ct. As a simple, effective, FUEL SAVING, first-class Engine, this is, without doubt, the best Engine made in the United States.

Orders promptly attended to. Prices as low as possible for first class work, and we intend to do no other.

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Fire-Proof Doors, Shutters,

Wrought Iron Girders, and all kinds of Housesmith work, Bridge and Prison Work;

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Steam Engine Builders, Boiler Makers,

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All work in their line attended to with promptness and dispatch. DIRECTORS—S. F. Butterworth, Lloyd Tevis, Jas. Pollock, Ben. Holladay, Chas. E. McLane, John N. Risdon, Joseph Moore, John N. Risdon, President; Joseph Moore, Vice President and Superintendent; Chas. E. McLane, Treasurer; Lewis R. Mead, Secretary; Lewis Coffey, Superintendent Boiler Works. 8vt7-qy

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LLEWELLYN & FLETCHER,
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Manufacturers of **House Fronts, Sash Weights,** and Machinery Castings of all kinds. 24v 6qr

Patent Elastic Soles.

We noticed on exhibition at the Fair, Daggett's Elastic Ventilating Inner Soles, on which there are some six or eight U. S. Pateuts, owned by Edwin A. Hill, of No. 7 Union street, Boston. We subjoin the proprietors' claims and remarks concerning this interesting invention, as follows:

The foot rests upon a cushion of air cells between points of vulcanized rubber, every cell opening freely into each other and through the space occupied by the foot. There is no contact of the foot with the wet bottom of the boot. The elastic points sustain the weight of the wearer, leaving an air space always between the foot and all dampness. Every step compresses and restores the air chambers, thus constituting hundreds of air pumps, working at every step of the foot.

The rubber points will not absorb the moisture from the boot, so that the soft flannel which covers them is always dry. Their springing elasticity renders them of peculiar value to the aged and infirm, who feel the jar of walking on hard substances, also to all persons whose business requires much walking or standing.

These soles are affording great relief to persons afflicted with rheumatism and consumptive complaints, chilblains, corns, cold and sweaty feet.

The feet are subjected to the greatest extremes of heat and cold, and deprived of that most essential element of life and health, air.

No part of the body is treated with so little judgment, while no part requires the exercise of more. The fluids of the body naturally gravitate towards the feet, and the outlets or pores are larger and more active. They pour out more waste matter than any other equal surface. If the evaporation is checked, their covering becomes saturated with the perspiration, and the feet softened, chilled, tender and unhealthy, and the whole system diseased as the result.

Nature repairs damages more slowly upon the feet than upon parts nearer the heart, therefore, greater care should be taken to protect them from injury.

The patent right for the sale of the soles for the Pacific Coast can be secured by addressing the patentee, or A. H. Hale, box 17, San Francisco.

ANOTHER SUBMARINE TUNNEL.—It is now proposed to make a tunnel to connect Scotland with Ireland. The points where the tunnel is to have its mouths are Leak's Point, in the Mull of Cantyre, and the coast of Antrim respectively. The length would be about fourteen and a half miles, and the cost is estimated at only £3,150,000.

J. NEWSHAM. J. BIGWOOD.

SOUTH BEACH IRON WORKS,

Near corner of King and Third streets, San Francisco.

MARINE ENGINES,
AND ALL KINDS OF
MACHINERY FORGING.

All kinds of Ship-smithing and Mill work manufactured to order. Jobbing of every description promptly attended to. All work done guaranteed. 13v14-1y

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STEAM ENGINES,

Flour and Sawmills, and MACHINERY of all descriptions made and repaired at shortest notice.

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CALIFORNIA BRASS FOUNDRY.

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ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails Rudder Brazes, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞ PRICES MODERATE. ☜

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9v13-1y

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HAWKINS & CANTRELL,
MACHINE WORKS,

Nos. **210** and **212** Beale street, between Howard and Folsom streets, San Francisco.

Manufacturers of STEAM ENGINES and all kinds of Mill and Mining Machinery. N. B.—Jobbing and Repairing done with dispatch. 10v17 3m

To Inventors.

The undersigned is now prepared to assist inventors or others by manufacturing Models for the Patent Office, large working Machines or Devices of every description, in Metal or Wood, in the most workmanlike manner and at reasonable rates. Also, Patterns for Iron and Brass Work and all kinds of Machinery.

Having had ten years practical experience in this city, parties can be assured all work entrusted to me will be executed in a prompt and satisfactory manner. Power will be granted to parties wishing to test or experiment with machinery.

☞Full files of the Patent Office Reports for the use of patrons. **J. H. CULVER,**
3v17-3m **20** Fr ment street, over Phœnix Iron Works.

MINES AND MINING MACHINERY.—One of the occurrences most to be regretted in connection with the recent Fair, is the meager display of minerals and mining machinery—articles which should have stood in the leading rank. Another year we have reason to expect a better display. Thomas Varney's amalgamating pan, which is so extensively in use throughout this State and Nevada, is the only representative in the Exhibition of a formidable list of competitors, which used to form an important feature in our Fairs. Hinkle & Capp's, and Hepburn's new amalgamating pans are exhibited for the first time; also Hendy's and Hungerford's concentrators of improved style. Rix & Varney's quartz crusher, a formidable machine, has stood like a monarch alone, and like the rest have not been tested in competition. Capt. Cox's pulverizer, we regret to say, has not run during the Fair. Let us suggest that special rewards be offered at our next Exhibition for the best machinery and best processes for reducing ores.

SEWAGE UTILIZATION IN INDIA.—It is reported that the Local Government, Central Provinces, has called upon its officers to take steps to utilize the sewage of towns and of military cantonments for agricultural purposes, and it has also furnished them with a very valuable memorandum by Mr. Bulk, Secretary to the Cawnpore Municipal Committee, explaining the cost of cultivation and returns of land manured with latrine poudrette in the vicinity of Cawnpore during the years 1866-67. The Cawnpore Committee have realized a clear profit of 313 rupees per acre in a year by manuring the land, which they cultivated with sugar-cane, with the latrine sewage. A greater truism was never propounded than that dirt was matter out of place. The day is, of course, very distant when sewage of towns in India shall become an article of commerce.

NORTHWESTERN WOOL GROWERS.—The first exposition of the woolen goods manufacturers of the Northwest, opened a few weeks ago at the rooms of the association, in the city of Chicago. Samples of goods were on exhibition from all the Western and several Eastern States, numbering about fifteen hundred lots, representing eighty mills.

NEEDLES.—Needles were first made in London by a negro from Spain, in the reign of Queen Mary. He died without imparting the secret of his art. The art was recovered in 1565.

A UNITED STATES Exploring party, under Lieut. J. E. Griffith, have reached Montreal River in their surveying and mapping operations of Lake Superior.

GEO. E. ROGERS,
(Successor to G. W. Bell.)
ASSAYER,
512 California st., San Francisco.
J. A. MARS, Assayer.
Ores carefully Assayed. Gold and Silver Ores worked.
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International Hotel,
JACKSON STREET
BETWEEN MONTGOMERY AND KEARNY STS.,
SAN FRANCISCO, CAL.
THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The Beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.
Prices varying from $1 50 to $2 per day for Board and Room.
FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.
☞ Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents
21v12 F. E. WEYGANT, Proprietor.

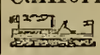
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THE HANCOCK
SEWING MACHINE!
PRICE ONLY $6.00.
The Greatest Novelty Yet!
This is the simplest and cheapest Sewing Machine ever made, and performs its work with marvellous efficiency. Call and see it. Agents wanted everywhere, and great inducements offered. Sent by express, free of expense, on receipt of price (or C. O. D.) to all places in this State where we have no agents.
FULLER & CO., Agents for Pacific Coast.
4v17-3m 109 Montgomery street, San Francisco.

Oakland Seminary for Young Ladies.
The next term of this Institution will commence on JULY 29, 1868. Competent and experienced Teachers fill each department of study.
This School affords all the advantages of a thorough English course, the Ancient and Modern Languages, Calisthenics, Gymnastics, Music, and all the Ornamental Branches.
For Catalogues, containing full information, please address MRS. C. M. BLAKE, Principal,
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HAYWARD & COLEMAN,
IMPORTERS AND REFINERS
—OF—
Illuminating, Lubricating,
—AND—
PAINT OILS,
CONSISTING OF
KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS, NEATSFOOT, BOILED AND RAW LINSEED, CASTOR AND CHINA NUT.
—ALSO—
Spirits of Turpentine and Alcohol.
NOTE.—We would specially call the attention of Mill owners and Engineers to our superior PARAFFINE OIL, which we manufacture from the California Petroleum. This Oil will not gum. Machinery thoroughly cleaned and lubricated with it will not heat, and after remaining at rest, can be started without cleaning off.
Lamps and Lamp Stock!
☞ A sample can of our Paraffine Oil will be forwarded on application to us, as we desire a fair and unbiased trial. ☞ an elegant and complete assortment on hand. ☜
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PRACTICAL
HOUSE
AND
Ship Plumbers,
914 Market Street,
A few doors west of Stockton.
Bath Tubs,
Water Closets, Wash Basins and Gas Fixtures always on on hand. Buildings fitted up with
Gas, Water and Steam, in the most improved manner.
Particular attention paid to Jobbing. All work warranted one year. 13v16-1y

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" CHRYSOPOLIS.....CAPT. A. FOSTER.
" YOSEMITE.....
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" JULIA.....CAPT. E. CONCKLIN.
Two of the above steamers leave BROADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted), one for Sacramento and one for Stockton, those for Sacramento connecting with light-draft steamers for Marysville, Colusa, Chico, and Red Bluff.
Office of the Company, northeast corner of Front and Jackson streets.
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Fire and Marine.
Union Insurance Company,
OF SAN FRANCISCO.
Nos. 416 and 418 California Street.
Cash Capital (U. S Coin).....$750,000
THE CALIFORNIA LLOYDS
Having consolidated with the Union Insurance Company, January 1, 1866, are now prepared to effect
Marine as well as Fire Insurance,
upon the most favorable terms.
☞ Losses promptly and equitably adjusted and paid in Gold Coin.
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CHARLES D. HAVEN, Secretary.
GEO. T. BODEN, Surveyor. 21v16-1amtf



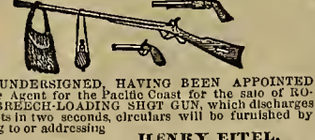
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At all the most important Fairs held in the United States in the year 1867. Gold Medals at the American Institute Fair, New York; Mechanics' Association Fair, Lowell; Maryland Institute Fair, Baltimore. Highest Premium at the New York State Fair, Buffalo, and at the Great New England Fair, Providence. At the Fairs held on the Pacific Coast, this machine has taken
Every First Premium
Awarded on Family Sewing Machines in the LAST FIVE YEARS. If there is a Florence Machine within one thousand miles of San Francisco, that is not giving entire satisfaction, if I am informed of it, it will be attended to without express charge or expense of any kind to the owner.
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MANUFACTURERS OF
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Movable-Tooth and Perforated Circular Saws,
Perforated Mulay, Mill and Cross-Cut Saws, with Adjustable Sockets.
SAW-GUMMERS, SWAGES, CANT DOGS,
Etc., have established an office for the sale of the above articles, at
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☞ Descriptive Pamphlets will be forwarded to any one
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CLOTHIERS,
MERCHANT TAILORS,
AND DEALERS IN
Men's Furnishing Goods,
TRUNKS,
Traveling Bags, Valises, etc.
THE LARGEST
AND BEST SELECTED STOCK
IN THE STATE.
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15v16 3m11p

FOR SALE,
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DEVOE'S COAL OIL, PARAFINE OIL, MACHINE OIL, Lard Oil, China Oil, Neats Foot Oil, Sperm Oil, Boiled Linseed Oil, Alcohol, Polar Oil, Tanner's Oil, Elephant Oil, Binnacle Oil, Turpentine, Oil Soap, Crude Petroleum, Lamp Stock of all kinds, GASOLINE, Gravity 84, NAPHTHA, Gravity 65 and 71. Also, GRANT'S CANDLES, in lots to suit.
10v17-3m

TO SPORTSMEN.

THE UNDERSIGNED, HAVING BEEN APPOINTED Sole Agent for the Pacific Coast for the sale of KOFER'S BREECH-LOADING SHOT GUN, which discharges four shots in two seconds, circulars will be furnished by applying to or addressing
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Or Lock Box 1172 P. O., San Francisco. 18v15 2m6m

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SHADES, Etc., Etc.
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I can offer from the largest and best assorted stock in the city anything in our line,
AT PRICES TO SUIT ALL.
FURNITURE AND MATTRESSES
Made to order.
All kinds of upholstering executed with neatness and dispatch. 9v17

Manufacturing Rooms to Rent.
We have a large, light room, 40x44 feet, in second story, at 411 Clay street, for rent low; also room adjoining, 22x42 feet
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Publishers and Patent Agents.

WE ARE NOW OFFERING
OUR IMMENSE STOCK
—OF—
Fine Custom Made Clothing
—AND—
Gents' Furnishing Goods
AT PRICES THAT DEFY COMPETITION.
Our Stock of Clothing Consists of
ALL THE LATEST STYLES
BOTH OF MATERIAL AND FINISH.
A Large Assortment of
Trunks, Valises, Carpet Bags, Blankets, Etc.,
AT EXTREMELY LOW PRICES.
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8v10 Cor. of Washington and Sansome streets.

Novelty and Usefulness Combined.
Wilson's Prepared Solder
Dispenses with the Soldering Iron.

It will save you both time and labor. One bottle of this Solder will mend all the tins you have laid one side for months, and make them good as new. Get them out and mend them. It is cheap—only 50 cents a bottle; it is convenient and compact. Use any kind of lamp that has a blaze no larger than a single wick; a spirit lamp will make no smoke. You may mend a dish or can over the best table without fear of spoiling it. Try it, and you will never want a soldering iron in the house again. What a saving to farmers. No more stopping up of holes in milk pans with a rag. Milkmen can mend their own cans. It does the prettiest job on any article you have in the house, from a pint dish to a wash boiler. It is a sure thing to stick when resin and solder will not. It will stand heat as well as any solder ever used over fire
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The Giant Powder Company
Is now prepared to fill all orders for
GIANT POWDER,
Packed in boxes of 5, 10, 25, and 50 lbs., either loose or in Cartridges of ¼, ½, 1, and 1¼ inches diameter. Each package contains one size Cartridges.
Orders to be addressed to the
General Agents,
BANDMANN, NIELSON & CO.,
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SAN FRANCISCO
HYGEIAN HOME WATER CURE.
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WE HAVE NOW THE MOST EXTENSIVE AND COMplete Health Institute on the Pacific Coast, both for ladies and gentlemen. The success which has attended industry and an honest persuance of this rational mode of curing the sick for the past ten years, has enabled Dr. Smith to establish a Home combining all the Hygienic appliances essential to the invalid. Owing to our increased facilities, we feel warranted in reducing the prices for gentlemen to $50 per month; to ladies from $15 to $20 per week for board and treatment.
HARLOW J. SMITH, M. D., Physician and Surgeon.
H. G. COSGROVE, Superintendent. 21v16-3m

SAN FRANCISCO
Pioneer Screen Works,
JOHN W. QUICK, Manufacturer,
Removed to Vulcan Iron Works, Fremont street, between Mission and Howard, San Francisco.
Screen Punching in all its branches, at rates reduced from 25 to 40 per cent. less than the established rates. I can furnish Improved Quartz Screens several sizes finer than any Screen ever punched, giving universal satisfaction, and for strength, cheapness and durability are not excelled. Also, Punched Screens of all sizes and fineness made from all qualities of material, for Quartz, Cement, Flour and Rice Mills, etc. Screen Punching made a specialty; therefore millmen forwarding their orders to me will receive none but the best. Orders solicited.
N. B.—J. W. QUICK is the only competent and successful manufacturer of Screens in the State, having made Screens for the principal mills in this State and adjoining Territories for many years. Quartz mill owners using punched Screens which have universally failed to give satisfaction, when visiting the Mechanics' Institute Fair, will please call and see me. 5v17-1y

Mining Secretary.
THE SUBSCRIBER, HAVING SERVED FOR THE LAST five years as Secretary of various mining companies, feels fully competent to serve in that capacity. Any parties wishing to secure the services of a Secretary can be accommodated on reasonable terms. Information given, and all necessary papers correctly made out.
Having had a long experience in the purchasing of goods and machinery for miners, parties in the mines will find it to their advantage, where purchasing agents are employed, to send their orders to the undersigned.
J. M. BUFFINGTON,
Room 37 New Merchants' Exchange, California street, San Francisco. 17v15-tf

Postage.—The postage on the MINING AND SCIENTIFIC PRESS to any portion of the United States is twenty cents per annum, or five cents per quarter, payable in advance at the Post Office delivering the paper. Postage free in the city and county. Foreign postage (with few exceptions) two cents per copy, prepaid. To Bremen and the German States (marked via Bremen and Hamburg line), three cents per copy, prepaid. Single copies to any address in the United States, two cents.

[From the Mechanics' Fair Daily Press.]

What the Mechanics' Institute Does and Offers.

Not a word needs to be said to convince San Francisco or its visitors during the Fair season, of the good that is done practically and substantially by such an institution as the Mechanics' Institute. But we will remind the visitor that this is not the only public benefit which has been called into existence by that most useful association. This is merely a temporary, though an extensive and powerful agency of industrial development; whilst there is also a permanent institution having many attractive features and operating constantly toward the same end, sustained by them on Post street, which no one who has visited the Fair should fail some time or other to visit. It is a splendid new building, containing a first-class library and reading-room, which are available to all at moderate prices. In the lecture-room there are to be held, hereafter, stated meetings for the discussion of questions of general interest in the development of the coast. Probably a cabinet of models of machinery and mineralogical specimens will soon grow up in connection with these efforts toward practical usefulness, from donations, or for temporary exhibition. All who are in any manner interested in what is going on in our midst would act wisely and do themselves a favor by identifying themselves with this, or any other equally efficient organization for the advancement of the coast. Members are of three kinds: Life members, who pay $50; stock members, who pay $5, on initiation (as an installment on a share of $25), and $1.50 quarterly dues; and subscribing or reading members, who pay $1.50 on initiation and $1.50 quarterly. Of the first kind there are about 50, of the second 900, and of the third 350, belonging to the Institute.

CONSTRUCTION.—The contract for building the railroad bridge across Yuba river at Marysville, has been let to Hudson & Binney, and connections will probably be made by the end of November.

NOTICE.

On and after this date, all parties on the Pacific coast manufacturing, using, or selling

Dunbar's Patent Piston Packing,

must obtain a License for the same from the undersigned, or they will be subject to the penalties of the law.

H. S. SMITH,
Ætna Iron Works.
San Francisco, August 15th, 1868. 7v17-3m

BUERK'S

Watchman's Time Detector.

THIS WATCH-CLOCK WAS INTRODUCED TO THE public in almost every section of the United States and Canada as about five years ago, and it has proved itself to be the best invention in the world for testing the faithfulness of Watchmen. Since its introduction, the Proprietor has improved on some parts, and corrected deficiencies and he has now

A Perfect Check upon the Watchman.

With other Clocks, a regular routine has to be followed, but with this a Watchman can be ordered to visit any particular place as often as required, without being compelled to go to places where it is not necessary to visit as often.

The instrument is complete in itself, portable, and as reliable as the best lever watch.

It is not so likely to become disarranged in its works as a good watch, because its parts are stronger. But when it needs cleaning, any common watchmaker can adjust it, its mechanism being simple. It requires no fixtures or wires communicating from room to room, as is the case with the ordinary Watch-Clocks; a small, inexpensive stationary key is alone required at each station. By its use places can be guarded that it would be impossible to guard with any other instrument, such as Railroad Tunnels, Bridges, Yards, Shops, etc. The instrument will in all cases be warranted perfect and satisfactory. Its price is invariably *Seventy-five Dollars*, cash on delivery, including as many keys as are requisite, not exceeding twelve.

THIS WATCH-CLOCK IS SOLD AT A LESS PRICE THAN ANY OTHER IN THE MARKET.

The DETECTOR is used extensively by large Manufacturing Establishments and Railroad Companies in the United States, from whom numerous testimonials have been received.

☞This Detector is covered by two U. S. patents. Parties using or selling these instruments without authority from me will be dealt with according to law.

N. B.—Parties purchasing these Clocks should test them sufficiently in the counting-room or office, as they will not be taken back after having been injured by the Watchman through carelessness.

All communications promptly attended to. Address
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SWAIN'S PATENT

Anatomical Boots

AT TEN DOLLARS PER PAIR.

Having received lately from Washington a patent for his new invention in Lasts, he is now prepared to make and sell as good Boots as the world can produce, at the above name d price. A liberal discount will be given to the trade
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(SUCCESSOR TO O. GORI)
MARBLE WORKS,
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Mantels, Monuments, Tombs, Plumbers' Slabs
Etc., On hand and Manufactured to order.
☞ Ooods shipped to all parts of the State. Orders respectfully solicited. 5v8-3m

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ARTIFICIAL LEG,
Manufactured in Philadelphia, Penn.
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J. M. STOCKMAN,
Manufacturer of
PATTERNS AND MODELS,
(Over W. T. Garratt's Brass Foundry,)
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6v14tf SAN FRANCISCO.

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Manufacture all kinds of Sporting, Rifle, Musket, Pistol, Blasting, Mining, Meal and Fuse POWDER, of superior quality.

Eureka Grain Powder in 6¼ and 1 lb canisters.

Pacific Sporting Powder, in 12½ kegs, 6¼, 1 lb and ½ lb Canisters.

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California Sportsman Powder, in 1 lb kegs, 6¼, 1 lb and ½ lb canisters.

Sea and River Powder, in 25 and 1 lb kegs, and 6¼ canisters.

Valley Mill Powder, in 25 and 1 lb kegs, and 6¼, 1 lb and ¼ lb canisters.

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Cannon, Musket and Blasting Powder in 25 lb kegs.

Mills at Santa Cruz. Office, 318 California St.
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SPIRITS OF NITRE,
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—AND—
ACIDS AND CHEMICALS OF ALL KINDS.
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Price of Presses, $8, $12, $16, $23, $30. Price of Offices, $15, $ 0, $30, $42, $18, $70. Send for Circular to LOWE PRESS COMPANY, 3 Water street, Boston. 4v17tf

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HARDWARE,
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—AND—
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EMPORIUM,
No. 59 Second street, second door from northeast corner of Mission st.,
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Gent's Furnishing Goods,
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Drawings of Models made for parties apply for patents at Washington or London. ar23-tf.

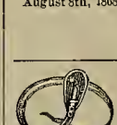


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HYDRAULIC LIFTING-JACKS
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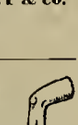
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What they are;
How Assayed;
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And How Worked;
With a Chapter on the
BLOW-PIPE ASSAY OF MINERALS.
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Published by A. Roman & Co., San Francisco.
For sale at this Office.—Price, One Dollar.
With the aid of this Book, the miner can assay his own ores, requiring but few materials, etc., except such as are generally to be found in the interior towns. 21v15tf

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THE
MINING AND SCIENTIFIC PRESS
(Patent Agency, Newspaper and Job Printing Office)
Will be REMOVED this day from No. 505 Clay street to
No. 414 Clay Street, below Sansome,
About one-half block east of our former location.
August 8th, 1868. **DEWEY & CO.**



RADICAL CURE
—OF—
RUPTURE!



Treatment of all Deformities of the Body, by DR. A. FOLLEAU'S process, 624 Washington street, up stairs, Washington Baths Building, between Montgomery and Kearny streets.
DR. A. FOLLEAU
Has his studies and manufactories in the same building. Every kind of Apparatus, Trusses, Orthopedic Instruments, Artificial Limbs, etc, are manufactured and applied by himself.
☞*He has no connection with any Agency.* 24v14-11ptf

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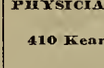
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Wadsworth House.....San Francisco.
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All orders will be attended to with dispatch, and satisfaction given.
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Judge Filkins, "
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17tf

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PATENTED DECEMBER 3d, 1867, by DR. G. W. COOL. The right of San Francisco reserved for his own use. The nature of his improvement consists in lining the entire concave surface with fine gold; it makes the plate twice as strong and one-third thinner than the common vulcanite plate. This work has given satisfaction in every case. Please call at No. 14 Third street, near Market, and see specimens. All work warranted as line as the specimens. Prices reasonable, 21v16-3m

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2v15-1qy

Edward and John A. Stanly & A. W. Blair
ATTORNEYS
AND COUNSELORS AT LAW,
Southeast corner of California and Sansome streets, over the Bank of British Columbia. 19v16-3m

Pacific Mail Steamship Co's

STEAMSHIPS FOR
NEW YORK, JAPAN AND CHINA.



LEAVE WHARF, CORNER OF FIRST AND Brannan streets, at 11 o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPINWALL for NEW YORK.

On the 6th, 14th, 22d and 30th of every month.

Steamer leaving San Francisco on the 6th touches at Manzanillo. All touch at Acapulco.

Departure of the 14th is expected to connect with the French Trans-Atlantic Co.'s steamer for St. Nazaire, and English steamer for South America. Through tickets can be obtained.

Departure of 14th is expected to connect with English steamer for Southampton and South America, and Australia, and P. M. S. S. Co's steamer for Central America. Through tickets can be obtained.

STEAMERS FOR SEPTEMBER, 1868.

The following Steamships will be dispatched on dates as given below:

September 5th—GOLDEN CITY Captain E. S Farnsworth, Connecting with ALASKA, Capt. Gray.
September 14th—SACRAMENTO.....Capt. W. H. Parker, Connecting with OCEAN QUEEN, Capt. King.
September 22d—MONTANA.....Capt. J. M. Cavarly, Connecting with HENRY CHAUNCEY, Capt. Conner.
September 30th—CONSTITUTION..Captain W. H. Hudson, Connecting with ARIZONA, Capt. Maury.

Cabin passengers berthed through. Baggage checked through—100 pounds allowed each admit.

An experienced Surgeon on board. Medicine and attendance free.

These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.

Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—if desired an amount of £10 to £20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England.

The Steamship JAPAN, Capt. Geo. E. Lane, will be dispatched on MONDAY, August 3d, at 12 o'clock, noon, from wharf, corner of First and Brannan streets, for YOKOHAMA and HONGKONG, connecting with the COSTA RICA for SHANGHAI.

For Merchandise and Freight for New York and way ports, apply to Messrs. WELLS, FARGO & CO.

For passage and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets.

OLIVER ELDRIDGE, Agent.

Pacific Powder Mills.

SUPERIOR BLASTING AND SPORTING GUNPOWDER

Black Diamond, in 1 lb canisters.
do do in ½ lb canisters.
do do in ¼ kegs.
Hunter's Pride, in 1 lb canisters.
do do in ½ lb canisters.
do do in ¼ kegs.
do do in ½ kegs.
Pacific Mills River Shooting, in 1 lb canisters.
do do do in ½ lb canisters.
do do do in ¼ kegs.
do do do in ½ kegs.
do do do in 25 lb kegs.
Pacific Mills Rifle, in 1 lb canisters.
do do in ½ lb canisters.
do do in ¼ kegs.
do do in ½ kegs.
do do in 25 lb kegs.

Blasting and Mining Powder $2 60 per keg.
Safety Fuse and Shot for sale by
HAYWARD & COLEMAN, Agents.
24v15-3m 414 Front street, San Francisco.

[From the Mechanics' Fair Daily Press.]

Special Mention.

Nelson & Doble's drilling machine is a hand drill, with compound cog-wheels forming the connection between the drill and the propelling handle.

The steam plow of J. Marquis is worthy of examination. It is similar to the Staadish plow, in having revolving blades at the stern end of a locomotive, but the revolutions are vertical instead of horizontal. The blades are on the principle of propeller blades, and are intended not merely to pulverize the soil, but also to turn it. The traction of ordinary plowing is rendered unnecessary; and if the propellers will work in practice, or turn the soil in any moderately satisfactory manner, the invention may become valuable. It is well worthy, at any rate, of a fair trial on a working scale.

A. Wingard's model of a patent steamboat wheel is a wheel with a series of three-bladed paddles, intended to save power in the method of striking and leaving the water.

T. B. Roche's patent swivel shackle has a swivel in the clevis bolt, permitting ropes and chains to twist and untwist with the swivel.

The Giant Powder Company have added samples of their product, which resembles sawdust in appearance. It contains the explosive substance of nitro-glycerine, and is sold by the proprietors of the same, as an improvement. It is being introduced in some of our mining districts.

S. C. Bradshaw exhibits Payson's Gymnastic Swing, which is so constructed that the occupant can very agreeably use his arms to put himself in motion.

Epes & Ellery exhibit a patent india-rubber paint, consisting of dissolved rubber mixed with some coloring matter, the advantage of which is obvious where a tough or water-proof coating is required. A canvass bag painted with it and filled with water a year ago, still contains the water, and is evidently less impervious than wood.

Special mention is also deserved by several beautiful working models of steam engines, which will be better appreciated when seen than when described, viz.: the engines exhibited by S. C. Higgins, Robert Blair, C. H. Foster and J. M. Greiss. H. A. Martin's California invented double cylinder, 4-horse power oscillating engine, is a plain but serviceable machine, the operation of which reminds one of the motions of the arm in turning a crank.

Atwood & Bodwell's self-lubricating journal is a very simple device to circulate the oil in the box.

New Patent Plow.—A mechanic named Cone has just completed in this city a new plow or cultivator, which, in the opinion of some who have examined it, will exceed in efficiency and utility any plow heretofore invented. The main feature of the invention is a series of eight pulleys, supplied with knives or spades attached like spokes to a wheel. The pulleys are all placed on the same shaft, and as the machine moves forward the spades dig up a belt of ground about six feet in width. They raise the earth and pulverize it, throwing it backward. One machine has been made and taken to Sacramento for exhibition during the State Fair. It is drawn by six horses or mules, with which power it will plow ordinary soil about as fast as a span of horses will harrow it. A satisfactory experiment has been tried with the machine in Napa County. Mr. Cone has applied for a patent for the above through the Mining and Scientific Press Patent Agency.—*Morning Chronicle.*

A few files of the Daily Fair Press, bound in board and leather, can be had at the office of the Mining and Scientific Press, for $2.50. Apply soon, at 414 Clay street, below Sansome.

Catalogue.—Copies of the Mining and Scientific Press, containing a revised edition of the catalogue of the Fair, may be had at the office, 414 Clay street.

The Pacific Straw Works, No. 335 Bush street, have their goods tastefully arranged in a revolving case near the left hand entrance to the Art Gallery, in the rear of the Pavilion. The articles consist principally of straw goods in every variety, felt hats; lace, buckram and illusion frames. They also exhibit an ingenious machine of their own manufacture, for making buckram frames,—the whole making a very pleasing and creditable display. The company commenced operations here about six years ago, since which time they have gradually extended their business, until it has now become an important, if not an indispensable part of our industry.

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New Mining Advertisements.

Kearsarge Mining Company, Kearsarge District, Inyo County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of September, 1863, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 408 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-second day of October, 1863, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the tenth day of November, 1863, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINGARD, Secretary.
Office, 408 California street, San Francisco. sep19 2

Providence Gold and Silver Mining Company, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of September, 1863, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the seventeenth day of October, 1863, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the fifth day of November, 1863, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary.
Office, Room 37 New Merchants' Exchange, California street, San Francisco. sep19

Mining Notices--Continued.

Bunker Hill Quartz Mining Company. Location of Works: Near Amador, Amador County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of May, 1863, an assessment (No. 8) of ten dollars ($10) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, or to Daniel Palmer, No. 134 State street, Boston, Massachusetts.

And whereas said assessment was not duly advertised as required by law, and as contemplated by the resolution making the levy, at a subsequent meeting of the Board of Trustees, held September 2d, 1863, it was resolved, that—

Any stock upon which said assessment shall remain unpaid on the sixth day of October, 1863, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-sixth day of October, 1863, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

WALES L. PALMER, Secretary.
Office, No. 19 First street, San Francisco, California. sep5

Chipinuena Mining Company--District of Ures, Sonora, Mexico.

Notice is hereby given, that at a meeting of the Board Trustees of said Company, held on the seventh day of September, 1863, an assessment of five dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 318 California street, up stairs.

Any stock upon which said assessment shall remain unpaid on the ninth day of October, 1863, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-sixth day of October, 1863, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary.
Office, 318 California street, up-stairs, San Francisco. sep12

Chalk Mountain Blue Gravel Company.—Location of Works: Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventeenth day of August, 1863, an assessment of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the twenty third day of September, 1863, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twelfth day of October, 1863, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary.
Office, 37 New Merchants' Exchange, California street, San Francisco. au22

Diamond Copper Mining Company. Location: Rockland District, Ocl Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of February, 1867, an assessment of two ($2) dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, Room 40 Merchants' Exchange Building, California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the seventh day of October, 1863, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-sixth day of October, 1863, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. A. COOLIDGE, Secretary.
Office, Room 40 Merchants' Exchange Building, California street, San Francisco, Cal. sep12

I. X. L. Gold and Silver Mining Company.—Location of Mine: Silver Mountain District, Alpine County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twentieth day of August, 1863, an assessment of one dollar and fifty cents ($1.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, Pioneer Hall, Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the nineteenth day of September, 1863, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the seventh day of October, 1863, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. CROWNINSHIELD, Secretary.
Office, Pioneer Hall, Montgomery street, up stairs, San Francisco. au29

Kearsarge Mining Company, Kearsarge District, Inyo County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the fourth day of August, 1863, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificates.	No. Shares.	Amount.
Alberding, F H	44, 45, 46, 47	79	$158 00
Bliss, D L	12	200	400 00
Blauvelt, W H	22	60	120 00
Grim, A K	23	206	412 00
Gray, T C	50	20	40 00
Gillig, Mott & Co	not issued	100	200 00
Gillig, Mott & Co	14	75	150 00
Gillig, John	not issued	85	170 00
Hastings, D L	36	100	200 00
Horn, A	52	78	156 00
Leet, W N	17	215	430 00
Lynch, P	19	21	42 00
McWilliams, Chas	35	100	200 00
Morgan, J	not issued	309	618 00
Sunderland, Thos	3	285	570 00
Stead, Geo	20, 41	205	410 00
Van Gordor, C H	16	559	1,118 00
Winters, John B	15	559	1,118 00
Young, A J	51	15	30 00

And in accordance with law, and an order of the Board of Trustees, made on the fourth day of August, 1863, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on the twenty-first day of September, 1863, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINOARD, Secretary.
Office, 408 California street, San Francisco. sep5

Nevada County Gold Mining Company, Nevada County, California.

Notice is hereby given to the Stockholders of the Nevada County Gold Mining Company, that a meeting will be held at the office of the Company, No. 9 Merchants' Exchange, California street, San Francisco, on MONDAY, the fifth day of October, 1863, at the hour of 12 o'clock, noon, for the purpose of electing officers, and the transaction of such other business as shall come before the meeting.

[Signed] E. S. CURTIS, } Trustees and
B. WELLMAN, } Stockholders.
Wm. Newton Meeks, } Stockholders.
Chas. Halsey, }
San Francisco, Sept. 9th, 1863. sep13

North American Wood Preserving Company. Location of Works: San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the third day of September, 1863, an assessment of fifty (50) cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, Room 32 New Merchants' Exchange, California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the fifth day of October, 1863, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twenty-seventh day of October, 1863, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

WM. B. LAKE, Secretary.
Office, 32 New Merchants' Exchange. sep5

Rattlesnake Gold and Silver Mining Company, Brown's Valley, Yuba County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the seventh day of August, 1863, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
E Halphen	45	49	$98 0

And in accordance with law, and an order of the Board of Trustees, made on the seventh day of August, 1863, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the salerooms of J. Middleton & Son, 310 Montgomery street, San Francisco, on the twenty-eighth day of September, 1863, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN F. LOUSE, Secretary.
Office, 318 California street, San Francisco, Cal. sep12

Silver Sprout Mining Company.—Location of Works and Mines: Kearsarge District, Inyo county, Cal.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the fourth day of August, 1863, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Albording, F H	16, 17, 26	3	$90 00
Cozens & Cleveland	32	1	30 00
Devin, Benderc & McMillin	not issued	2	60 00
Gillig, John	34, 37	32	960 00
Gray, T C	63	7	210 00
Hearst, George	27	10	300 00
Meek, E B, Jr.	82, 83	10	300 00
McMillin Thos	75	1	30 00
McLaughlin, J W	74	50	1,500 00
Martinez, Ladislao	30	4	120 00
Wingard, A	22, 50, 53	16	480 00

And in accordance with law, and an order of the Board of Trustees, made on the fourth day of August, 1863 so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on the twenty-first day of September, 1863, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINOARO, Secretary.
Office, 408 California street, San Francisco. sep5

Postponement.—The above sale is hereby postponed until Wednesday, the twenty-first day of October, 1863, at the same hour and place. By order of the Board of Trustees.

sep19 T. B. WINGARO, Secretary.

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They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

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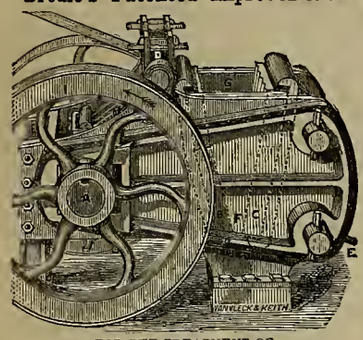
The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Settlers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the **PACIFIC FOUNDRY,**

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A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

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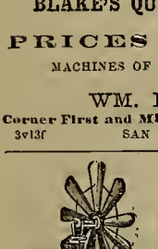
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Keep constantly on hand a large stock of best Bar and Rundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings, which they offer to the trade on liberal terms.

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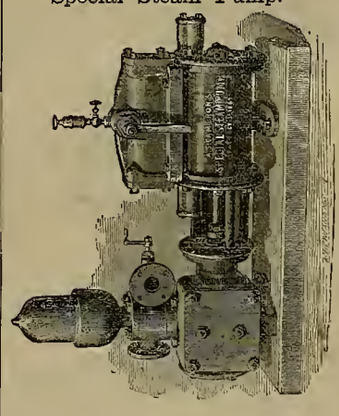
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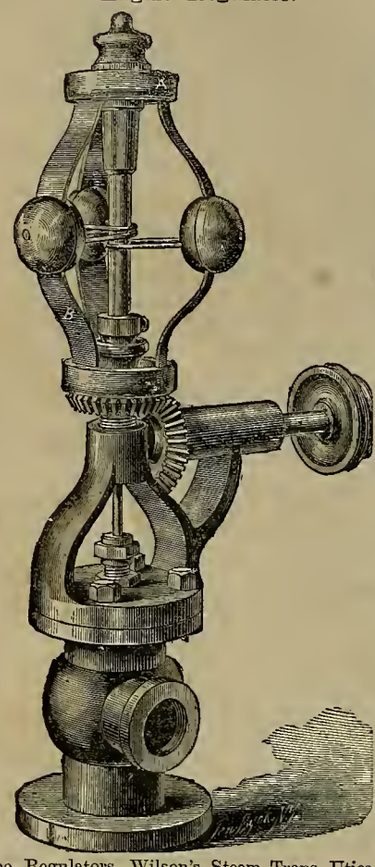
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Mill-Stones,

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Mill Picks, Mill Picks Dressed, Mill-Stones Repaired and Rebuilt; Mill-Stones Balanced with Fellenbaum's Patent Balance, of which I am sole Proprietor for California, Oregon, and Washington Territory. C. F. TRAVIS,

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AN ENTIRELY NEW AND SUPERIOR ARTICLE OF exclusively mechanical preparation, made to order on short notice, and for sale by H. ROYER, at 435 Brannan street, between Third and Fourth. Refers to Elsen Bros., Pioneer Mills; Martin Steen, National Mills; Horace Davis, Golden Gate Mills; also, N. W. Spaulding, Saw Manufacturer. 6v16-3m

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Files Re-cut and warranted as good as new, with a saving of fifty per cent. REAPER AND MOWER SECTIONS MADE TO ORDER. The only establishment on the Coast. Orders from the country promptly attended to. ☞ First Premium awarded at the State Fair, 1867

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Thomas Firth & Sons' Cast Steel, Files,

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JOHN SWYNEY. 8v17-tf DAVID R. SMITH.

The Soda and Salt District of Mexico.

The following is interesting to the interior Pacific States, as descriptive of what will soon become a branch of industry in our own midst. The discovery of nitrate of soda in conveniently attainable quantities would be a valuable addition to our resources, as it furnishes the principal ingredient for the manufacture of powder:

This singular region contains 720 square miles of territory, the soda, or "tequisquite," as it is generally called in that country, being chiefly deposited on the lowlands by the lake of Texcoco, about six miles from the city of Mexico, and which sometimes overflows up to its gates. It appears that the mud of this lake contains four per cent. of soda, and the water itself gives the following results on analysis at 1° Beaumé, with a density of 1.0069: Water 90.890, chloride of soda 0.570, carbonate of soda 0.485, and sulphate of soda 0.054. The efflorescent soda deposited upon the lands referred to is to be found in much more considerable quantities during the winter or dry season in Mexico than during the summer, when the diurnal rains wash much of it away, nor can it be collected during the latter season as the water soaks into the soil; but upon the return of dry weather, the rays of the sun evaporating the moisture upon the surface, that left below gradually rises; and by this natural process the salts are consolidated, forming a crust, according to Señor Almarez, in his *Memoria para servir la Carta Hydrografica del Valle de Mexico*, generally about one centimeter thick. Sometimes, also, the efflorescence may be produced by plowing up and afterwards watering the soil. The efflorescence begins to be observable at the end of autumn, its white and crumbling flakes concentrating themselves by the action of the winter frosts into the crust above referred to and which is composed of two descriptions of "tequisite," or soda, called by the natives of the districts around "cascarillo" and "polvillo," and which are scraped up and deposited in cellars, either for immediate sale or for purification on the spot. The soda which is obtained from the waters of the lake themselves is generally not perceivable until a considerable evaporation of them has taken place, when it appears upon the surface of them in the form of a frothy substance denominated "espumillo" by the natives around, and for the obtaining of which the waters of the lake are dammed up into pools, so soon as they begin to retire, by heaping up mounds of earth around them.

Hay, an English gentleman, having some works on the spot, calculates that he gets 15,000 quintals of crystallized soda at his works, which sells in the city at $10 per quintal, and Mr. Bowring asserts, in a paper recently published in France, that 60,000,000 tons of soda may be obtained from the bottom of the lake. Mr. Seager says that the cubic metre, at ten per cent. in solution, contains 216 pounds of common salt and soda in equal proportions. The waters of an upper lake called Xachimilco, which are carried into the former lake, are reckoned to carry forty-seven metrical tons of soda into the Texcoco.

The simple mode of proceeding hitherto pursued by the natives of the country for the separation of the soda and the common salt from the other substances, and which is still pursued in the more remote silitrous lands of the country, has been replaced in other places by other means for attaining the same end, suggested by chemical science and modern discoveries. The old system consists in diluting and filtering the silitrous earth referred to, and which is placed in large pans formed of the earth, from which the "tequisquite" has been already extracted, and in which branches of trees are placed crossways and entwined with rushes or "petate," a kind of grass used for matting, so as to stop the earthy particles and sulphate of soda from passing through, the pan being pierced at the bottom so as to admit of the passing through of the water, which, being conducted by means of a hollow reed or of a maguey leaf, into tanks, evaporation is effected by the action of the air and the sun, or by means of artificial heat when the water is conducted into boilers. The salineros who conduct the salt-works convey the water to the hight of twelve inches into troughs of masonry, which are of two descriptions, called respectively "concentradoras" or "concentrators," and "cuajadoras" or "coagulators;" and the water runs gradually from those of the former into those of the latter denomination, in which the time consumed in the process of crystallization naturally depends upon the temperature of the atmosphere or other meteorological causes; but it is cal-

culated, that the solution being at 18° to 20° Beaumé, and the water being from two and a half to three inches in depth, crystallization takes place in four days in summer and in eight in winter. The earthy particles contained in the water are cleared out of the trough so soon as they appear; the chloride of sodium then crystallizes and forms a crust of about a miriametra thick, and adheres to the bottom of the trough; the saline particles then forming themselves into small heaps as the water dries up, being finally spread out to dry and harden in the sun. Salt and chloride of sodium being alone required in the districts of San Luis Potosi and Zacatecas, referred to on account of their being extensively used in the reduction works of the silver mines in the vicinity, the sulphate of soda, which is likewise obtained by the operation in question, is taken into no account whatever, but is left piled up in immense hillocks and as a mere refuse around the various salt works.

With such vast resources in the elements of purification, it is to be presumed that the Mexicans are very clean in their ways. Possibly the Ethiopian might have his skin changed were he dipped in this strange lake, which seems like a great washing tub for the whole world.

THE DAVY LAMP SUPERSEDED.—Since the invention of the Davy lamp—which, although a wonderful discovery, gives but a faint light, is not perfectly secure against the dangers of explosion by fire-damp—the English Government has offered the sum of £4,000 as a reward for the invention of a lamp burning without contact with the external air. Two young students of the Polytechnic, MM. H. Liauté and L. Denoyel, have carried off the prize. An oxygen lamp had been already constructed, but it could only burn under water by means of a supply of air pumped into it by machinery which required four men to work. The newly invented lamp burns alone, carrying within it the requisite supply of gas. The savants denied that this could be done. A man in the costume of a diver descended into the sluice opposite the Mint to the depth of eight feet; the lamp burned beneath the water, and at the distance of two yards from him the diver was able to inscribe with a diamond, on a piece of glass, the date and hour of the experiment. The lamp burned for three-quarters of an hour in the water, and when it was hauled to the surface it was still burning, and the flame as bright as ever. It has been made by M. Delenil, constructor to the Polytechnic. Several members of the Institute, pupils of the Polytechnic, as well as several journalists, were present at the experiment, and cheered frantically when the lamp was drawn out of the water burning brightly, at the expiration of three-quarters of an hour. Not only will this invention prevent the danger of explosions in mines from fire-damp, but it will enable search for drowning persons, or for property lost by shipwreck, to be pursued with the utmost facility.—*Paris Cor. Star.*

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8v13-1y Stove Store, No. 125 Clay street, below Davis.

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MORRILL'S

Petroleum and Universal Oil Stoves

Have proved themselves a superior substitute for Wood and Coal Stoves, in that they work quicker, are neater, bake and broil better, are MORE ECONOMICAL generally. They are portable, can be used in any room, with or without chimney, as they emit no smoke, soot or ashes. There are nine different sizes, designed for barbers, dentists, and other mechanical purposes—as well as for cooking. They are perfectly safe.

I now offer a reward of $100 for every Petroleum Stove exploded by Naphtha delivered at my store, 18 Geary street, where they are for sale by

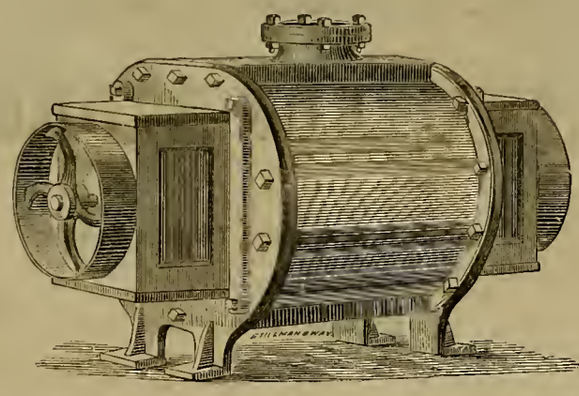
M. B. BULLARD,
Proprietor of Petroleum Stove for California, and Agent for Universal Oil Stove for Pacific Coast.

N. B.—Petroleum Stoves burn Naphtha converted into a gas. Universal Oil Stoves burn Naphtha, Benzine, or Coal Oil, with non illuminating flame and light on a wick as easy as a lamp. 21v16 3m

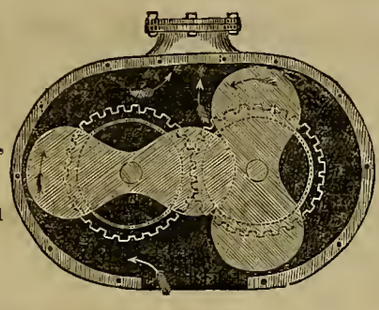
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CAUTION.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.

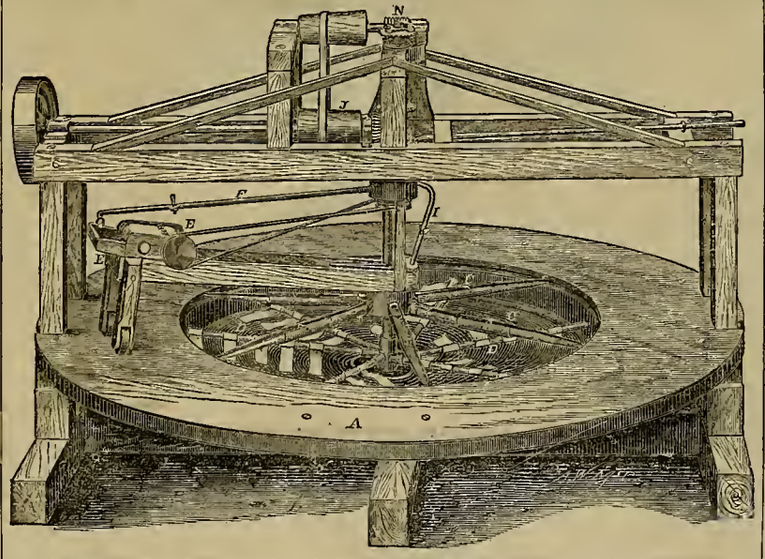
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IMPROVED CONCENTRATOR,

For Saving Gold and Silver Sulphurets.



This invention, a perspective view of which is given above, consists in applying machinery to the ordinary buddle, and rendering the same automatic in action. It is calculated to do a large amount of work.

One Machine, costing about $1,400, is sufficient to work the Sands from 25 to 30 Stamps. But very little power is required.

It can be easily run by one man turning a crank. The principle on which it works is entirely dissimilar from any other machine now used on the Pacific Coast; although it is in almost universal use in Europe; but not so arranged there as to be automatic in action.

The illustration given herewith, was fully described in the Mining and Scientific Press of March 21, 1868.

One of these machines may be seen in constant operation at the Eureka (Watt's) mine in Grass Valley, where it is giving the fullest satisfaction, and is working all the tailings from thirty stamps. Another machine may be seen at the Banner mill, in Nevada, and a third below the Gould & Curry Company's mill, near Virginia City.

For further information, apply to THOMAS N. PAINE, Grass Valley, California.

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San Francisco March 6, 1865 11v10-tf

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All instructions and experiments elsewhere obtained are spurious and unreliable. WORKING EXPERIMENTS ON AMALGAMATION OF ORES, Etc. Prof. W. has in operation in New York a large and small Hepburn Pan, for working 1,000 or 20-lb. charges of material for experimental purposes. 3v17

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1st. It is cheaper, all things considered, than most articles in use.

2d. It is the best and purest material known in the market, being entirely free from all offensive smell.

3d. It is the most durable, not being subject to rot after years of exposure to moisture and dampness.

4th. It is remarkable for its elasticity, rivaling, in this respect, the finest curled hair.

5th. It contains nothing to breed vermin or support insect life, being entirely freed in process of preparation from all deleterious vegetable matter.

Lastly. It does not pack; is free from dust; much lighter, and in general obviates all the objections to pulu, prepared shavings, soap root, and other inferior substitutes for feathers and hair. 22v16 6m

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(Cut out and return this notice. 6v17-7t

THE MINING AND SCIENTIFIC PRESS, which commenced its seventeenth volume on the 4th, comes to us with a newly engraved head, and presenting otherwise its usual tasteful appearance. We take this occasion to say that the PRESS is one of the best papers of the kind in the United States, and every miner and mechanic in the State, as well as the business man, who would keep posted on our industrial resources, should have its name on its subscription books.—*Nevada Gazette.*

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Gives greater power at lower cost than any Wheel in use. All Wheels warranted to give the power as set forth, or the money will be refunded. Send for one of our circulars, giving full tables.

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Sole manufacturers of the above Patent. Castings always on hand.

HAYES' IMPROVED STEAM PUMP.

For pumping out mines or pumping water in any way, this is considered by miners and engineers as superior to anything now in use. Parties on this coast now using them will attest to their efficiency.

HOUSE FRONT CASTINGS.

We claim to make the best castings of the above kind of work now made on the Pacific coast, and think that a reference to our work will bear us out in the assertion. We would call the attention of the public to the following Iron Fronts made by us for good work, to wit: Fireman's Fund Insurance Building; San Francisco Savings Union; the New California Market; Chas. Land's Building, on the corner of Sansome and Bush streets; Dooly Block Co's Building, on the corner of Sutter and Sansome streets; Kennedy's Warehouse, corner Broadway and Battery streets; Livingston's Building, corner California and Battery streets; the new Calvary Church Building, corner Geary and Powell streets; new Theatre, on Bush street, and many others that we have not space to mention.

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Mr. Varney, by long practical experience and close study of the working of Pans, has succeeded in bringing his Pan to great simplicity and perfection. All parties interested should make it a point to examine the new improvements, as it will well repay for the time so spent.

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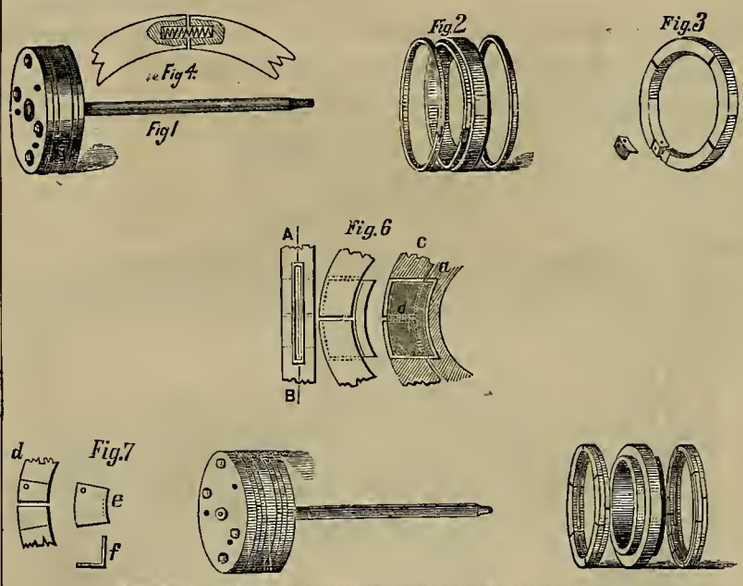
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And all other kinds of Machinery that may be desired.



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The accompanying and following are some of the specialties of the work of this Establishment:

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There are of this Patent upwards of THREE HUNDRED in actual operation on this coast. It requires no springs or screws, is always steam tight, without excessive friction, and never gets slack or leaky. Any amount of recommendations can be given on application.

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The Clutch is extremely simple, and can scarcely, by any possibility, get out of order, and will never wear out, except by decay or decomposition of the material of which it may be made. It is designed for hoisting purposes generally, and is just the thing for miners. We should not then hear of the mining accidents which occur daily from the giving away of hoisting gears. Parties using them in stores in this city give some of the best kind of certificates of their value over any other kind of Friction Hoist.

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Being made of only five pieces of metal, and having only two movable parts, it is considered by experts to be the simplest and best feed Pump ever yet invented.

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A very valuable invention for economy of steam, suitable for all purposes of heating and drying steam. Recommendations from parties using them in this State can be had on application.

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For burning screenings and fine coal, soft or hard. This is a very valuable invention, and has done more for the benefit of California coal mines than anything else. By the use of this Grate Bar, all the debris and screenings can be used which formerly had to be thrown away. It is in use in about all the steamers on this coast and for many land boilers. All parties using coal will find it to their advantage to use these Bars.

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We have established a special department for Ornamental Work, Stove Plate, Piano Plates, and all kinds of Fancy Castings, to which public attention is respectfully called.

All of the above mentioned articles will be on exhibition at the Mechanics' Sixth Industrial Fair, and the attention of the public is respectfully called to the merits of each article as set forth.

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A Journal of Useful Arts, Science, and Mining and Mechanical Progress.

BY DEWEY & CO., Patent Solicitors. SAN FRANCISCO, SATURDAY, SEPTEMBER 26, 1868. VOLUME XVII. Number 13.

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San Francisco Market Rates. Stock Prices—Bid and Asked. Notices to Correspondents.

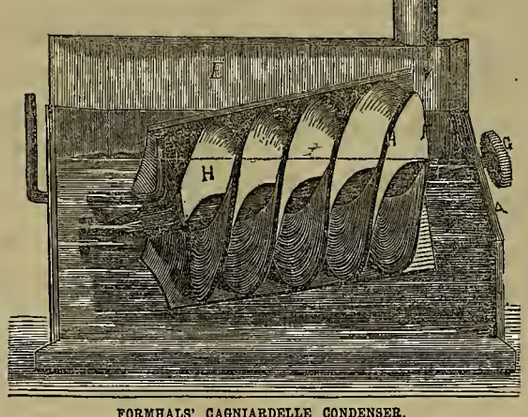
TOWNSHIP AND COUNTY MAP OF CENTRAL CALIFORNIA.—We have before us Mr. Doolittle's map of the counties of Butte, Yuba, Nevada, Placer, El Dorado, Sacramento, and parts of Amador and Sutter; showing the township lines, the Pacific Railroad, the Placerville, Marysville and Oroville roads, the gravel claims wherever worked or discovered, and an immense number of other details which have never been represented on any map heretofore. It is the want of such definite information as may be found in this map, that has many a time deterred capitalists from taking the trouble to inquire more definitely into representations concerning valuable mining properties, or promising agricultural and business localities, viewed with regard to the permanent development of the country. Not capitalists merely, but all of the more stable and far-sighted of our citizens, are by this time getting into a position to profit by the general course of the future of the interior counties. There can scarcely be any doubt that thousands of manufacturing enterprises will yet be seen in busy operation in the delightful foothills of the Sierra Nevada, by the same eyes that roved in search of gold in 1849-50. What country in the world is more favorably situated for manufacturing? and is it not beginning to be demonstrated by profitable returns that we shall have control of the markets of the occidental world? That the foothills are only in a transition state is evident; but it seems strange that we have had no better maps of the interior counties up to the present time. Mr. Doolittle is intimately acquainted with the entire country which he has here represented. He has noted the U. S. Land Surveys, and land districts, the school-houses, post-offices, roads, ranches and farms, ditches, bridges, ferries, dams, tunnels, quartz veins, mills, ancient river channels, bedrock ranges, etc., and has been engaged in collecting his data for six years. On the margin are plans of Nevada City, Grass Valley, Oroville, Marysville, Lincoln, Folsom, San Francisco, Sacramento, Washington, in Yolo County, Nicolaus, Auburn, and Placerville, besides diagrams exhibiting the latitudes and longitudes from Monte Diablo, the Pacific Railroad to Winnemucca Station in Nevada, and an abstract of the Pacific Railroad Land Law; scale two miles to the inch; territory represented, 4,000 square miles. Brown & Harnett are the lithographers. The map is to be sold by subscription at $5.75.

AN auction sale of six hundred acres of farming land adjoining the city of Vallejo, will take place at Maurice Dore & Co's salesroom, on Montgomery street, on Wednesday, September 30th, at 10½ o'clock A.M.

Formhals' Cagniardelle Condenser.

Amongst the numerous devices to which quicksilver miners have been forced to have recourse for protection from the evil effects of mercurial vapor, the cagniardelle blower has been applied by Mr. Formhals in such a manner as to draw the noxious fumes out of the furnace as soon as they are formed, and to condense them while passing them through tanks containing water. The cagniardelle was invented in 1809, by Cagniard Latour, but was not brought into general use till 1834, when the inventor delivered a lecture before the Academy of Sciences which gave it new life; it was then extensively tried throughout Europe, but again fell into disrepute on account of the difficulties in its construction, the great first cost, and its liability to leak; and now there are but few in use, although they are the simplest, and when once constructed, the most powerful and economical blast engines ever invented,—for which purpose they have been heretofore used in metallurgical establishments. Their application to the condensation of noxious vapors, however, is entirely new, and it is an idea of sufficient merit to warrant the application for a patent, which has been granted through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. Quicksilver, especially, can be condensed very conveniently in this manner, as the cagniardelle necessarily runs in water, and the mere passage of the fumes through the machine suffices to condense the greater portion before they are driven through a conducting pipe into the second tank. But the great merit of Mr. Formbals' invention does not lie so much in the application of the cagniardelle as a condenser, as in his manner of construction, by which he has finally succeeded in rendering it fully as durable and at a price not exceeding one-fourth the cost of the former ones. This is done by winding thin strips of wood around the shaft, a guide being used to form the spiral and a roller to press the strips firmly together, till the screw has acquired a sufficient size, when the outer cylinder or cover is driven on, and hot asphaltum allowed to run through till the interior is thoroughly coated, and thus rendering it impervious to and indestructible by the acid vapors which may pass through it.

The operation of the cagniardelle will be understood by reference to the engraving. The screw-shaped flanges, H, are seen on the inside of a cylinder of sheet iron, which revolves in a tank filled with water, up to the dotted line. As the end of the flange, F, dips into the water, the communication of the air inclosed in the winding inside of the cylinder is cut off from the air above; and as the cylinder continues to revolve, the air is forced along, like the operation of screwing it forward, being, of course, always above the water line, until it has reached



FORMHALS' CAGNIARDELLE CONDENSER.

the end of the winding, when it is forced with great velocity through the pipe which is seen to emerge from the tank at the left hand side. At the top is a pipe which connects with the furnace, from whence the vapors and gases are drawn.

It cannot get out of order, and the power requisite is very small, when compared with the ordinary cylinder and piston machines. Another objection to it formerly was its bulkiness for transportation, which could only be urged with any force in regard to its application to works located in distant and mountainous districts. This difficulty is now overcome, as it can be constructed wherever it is needed.

The following letter from the best metallurgical authority in the world, will sufficiently explain itself:

BERLIN, Feb. 19th, 1868.

MR. F. FORMHALS, San Francisco:—With the greatest interest have I read your communication in regard to your apparatus for the condensation of metallic vapor, which you had the kindness to send to me in your letter of December 30th last. The same is capable of doing that which was hitherto hardly possible to accomplish with the existing facilities, namely: a very perfect condensation of the vapors in a comparatively small space, and at moderate cost of construction.

For the efficiency and durability of the cagniardelle, I refer you to the experience with the same which has been had at the Mansfield copper smelting works, where they are preferred to the cylinder blast machines. That the intimate contact of the metallic vapor with water, which your apparatus is capable of securing, produces a very perfect condensation, has been shown in Bennett's Condenser. The objection that the cagniardelle will be destroyed by the acid waters, as for instance, in the treatment of mercurial ores, must be overcome by coating it with varnish.

Should you be disposed to allow me to use your communication on your apparatus after further trial, and to publish the same in the *Berg u Huttenmanesche Zeitung*, I would be much obliged to you.

Yours, respectfully,

BRUNO KERL,

Professor of Metallugy at Berlin.

Mr. Formhals has already secured protection for his invention in several foreign countries, through the MINING AND SCIENTIFIC PRESS Agency.

THE FORWARD MARCH IN CHINA.—A clause in our treaty with China reserves to that country the right of determining when and where telegraphs and railroads are to be constructed; in short, to open or close the door against the introduction of that machinery whereby the world moves in modern times. But we have evidence that the Chinese Government does not intend to be illiberal in its construction of that treaty with America at least, in the fact that it has conceded to the East India Telegraph Company, organized under a charter from the State of New York, the privilege of connecting the great seaports of the Empire with a submarine cable, and that the company proposes at once to lay 900 miles between the following ports: Canton, Macao, Hongkong, Swatow, Amoy, Foo-Chow, Wan-Chu, Ningpo, Hang-Chean and Shanghai. The foreign trade of these ports is said to amount to $900,000,000 annually.

NICHOLSON PAVEMENT LAWSUIT.—In the action of the Nicholson Pavement Company *vs.* Hatch and others, owners of the Stow pavement, in the U. S. District Court, Judge Field has rendered his decision in favor of the defendants. The suit was in the nature of a trial for infringement of the Nicholson patent, and the Stow Company relied on proof of having applied a new principle in the manner of wedging the wooden blocks together, without the use of a board foundation. The Stow pavement presents the same external appearance and has the same qualities as the other, but has no resemblance in its foundation. The Nicholson party claim exclusion of moisture from below as one of the principal benefits of their pavement. The Stow party acknowledges that moisture penetrates their blocks from above and below, but there being no foundation to intercept its absorption, it readily escapes. The Court does not decide upon the merits of the pavement, but on the issue presented that the combination for which Nicholson obtained his patent has not been used in all its parts. It is understood that the case will be appealed.

WINGED ANTS were passing over Shasta valley on September 9th in great swarms, flying from west to east at an elevation so as to strike a person seated on a load of hay. Mr. H. Wells walked ten miles before passing the breadth of the swarm.

Mechanics Institute Fair---Awards.

The following list of awards made to exhibitors at the late Mechanics' Fair has been carefully compiled by direction of the Board of Managers. We are informed that it would have been made public sooner, but for the delay of some of the Committees of Judges in handing in the lists of the awards made in the various departments or classes. It will be seen that the list is still incomplete, but the exceptions will be published within a few days. Medals, diplomas and certificates will be delivered to exhibitors as soon as they can be engraved or filled in, which may take some weeks yet, as, according to the list, there is considerable work to be done. When ready for delivery, due notice will be given, by the Board of Managers, through the public press:

CLASS 1—SECTION 1.

Detrick & Eckart, for oscillating engine, silver medal.
S. C. Higgins, for horizontal engine, diploma.
Robert Blair, for working model horizontal engine, certificate of merit.
H. B. Martin, for oscillating, double piston steam engine, diploma.
Henry Tripp, for working model of locomotive engine, diploma.
Risdon Boiler and Locomotive Works, for California made steel boiler, diploma.
Etna Iron Works, for Bemis's patent grate bars, silver medal.
R. L. Harris, for Carvalho's steam superheater, silver medal.
J. L. Constable, for new mode of generating steam, certificate of merit.
H. L. Smith, for Dunbar's piston packing, diploma.
Miners' Foundry, for Hicks's engine, diploma.
Pacific Foundry, for horizontal engine, gold medal.
Union Foundary, for horizontal engine, silver medal.

CLASS 1—SECTION 2.

W. J. Tustin, for windmill, special diploma.
Altwood & Bodwell, for windmill, diploma.
E. O. Hunt, for model of windmill, certificate of merit.

CLASS 2—SECTION 1.

Formhals, for hydraulic blower, certificate of merit.
Goff & Bisbop, for California invented crank pin and cross head lathe, silver medal.
Marsh, Pillsbury & Co., for fan blower, certificate of merit.
N. Lamsden, for California inveated apparatus for making screwed hoops and shoes, diploma.
Aitwood & Bodwell, for model of self-lubricating journal, certificate of merit.
Peterson & Jones, for patent spring hammer, California invention, diploma.
Wm. Rudolph, patent turning lathe, certificate of merit.
C. F. Robinson, for Rose's patent tire upsetter, certificate of merit.
J. S. Detrick, for eccentric chuck, silver medal.
Kittredge & Leavett, for one punch and two pairs of shears, certificate of merit.
Hughes, Kimball & Co., for tire upsetter, diploma.
Andrew Spaulding, for watchmaker's lathe, diploma.
A. S. Hallidie & Co., for machine for making wire rope, California invention, diploma.
Nelson & Dohle, for drilling machine, diploma.

CLASS 2—SECTION 2.

F. A. Huntington, for shingle machine, diploma.
I. H. Small, for planing machine, special diplom..
James Hatch, for guides and guards for moldiug, California invention, certificate of merit.
J. W. Alesworth, for machine for beviling barrel staves, certificate of merit.
James Hatch, for improved mortesing chisel, California invention, special diploma.

CLASS 2—SECTION 3.

Coffin & Standish, for steam plow, California invention, gold medal.
J. Maiquis, for model of steam plow, certificate of merit.
J. and J. Ingham, San Jose, for gang plow, diploma.
F. V. Lamh, for vegetable root cutter, diploma.
M. C. Hawley & Co., for agricultural implements, diploma.
E. Rimhall, for gang plow, certificate of merit.
D. Winter & Co., for combined seedsower and cultivator, diploma.
Baker & Hamilton, for sweepstakes and gang plow, etc., silver medal.
W. H. Weister, for Randall's patent sulky rake, diploma.
Baker & Hamilton, for combined shaker, reaper and mower, diploma.
Dexter & Lamhert, for California made cultivator, diploma.
J. Price, for best hay press, diploma.
H. G. Pratt, for hay press, certificate of merit.
W. B. Reardy, for improved cultivator tooth, diploma.
A. Hunter, for best grain separator, California invention, diploma.
A. Hunter, for combined rake and loading machine, certificate of merit.
Russell & Erwin Manufacturing Company, for best self raking reaper, diploma.
A. C. Fargo, for improved wagon brake, diploma.
I. J. Huttabough, for Eagle hay forks, certificate of merit.
W. N. Hawley, for best hay cutter and single plow, diploma.

CLASS 2—SECTION 4.

Pacific Woolen Mills, for knitting machine, certificate of merit.
W. Lyne, for hair-picking machine, diploma.
J. Spaulding & Co., for carpet beating machine, certificate of merit.
Robert Hewston, for self-generating gas machine, certificate of merit.
Pioneer Woolen Mills, for steam weaving loom, certificate of merit.
George E. Butler, for family knitting machine, certificate of merit.
J. Neuman, for silk loom, diploma.

CLASS 3—SECTION 1.

J. B. Johnson, for best friction hoist, a California invention, diploma.
J. Hendy, for best concentrator, diploma.
Miners' Foundry, for McAuley's rope hose covering, diploma.

CLASS 3—SECTION 2.

J. Munson, for submerged pump, certificate of merit.
G. M. Gerrish, for submerged pump, diploma.
L. D. Craig, for globe hydraulic nozzle and coupling, California invention, diploma.
E. O. Hunt, for three California patent pumps, certificate of merit.
H. B. Martin & Co., for force pump, California invention, certificate of merit.
M. D. Laswell, for force pump, silver medal.
A. J. Smith, for Hudson's pump, certificate of merit.
Etna Iron Works, for patent steam pump, Dunbar's self-adjusting steam packing, diploma.
David Stoddart, for Cameron's steam pumps, certificate of merit.
O. J. Backus, for patent hose nozzle, diploma.
V. Cushing, for Excelsior force and suction pump, diploma.

CLASS 4.

Tubbs & Co., for California made rope, diploma.
T. F. Mitchell, for California made blocks and sheaves, silver medal.
George Howes & Co., for model of ship *Young America*, silver medal.
T. B. Rocher, for patent swivel shackle, California invention, certificate of merit.
W. M. Ryan, for model of vessel, certificate of merit.
E. T. Barlow, for patent anchor and cosin, diploma.
S. Marion, for model of a full rigged ship, certificate of merit.
Capt. Wylie, for steamship and model of ship, certificate of merit.
J. E. Thayer, for four models of ships, diploma; for surf boat (Norwegian), certificate of merit.
Mrs. A. Rogers, for model of steamship *Zoe*, diploma.
Gustave Jessen, for model of U. S. steamer *Shubrick*, certificate of merit.
J. C. Cousins, for two models of boats, diploma.

CLASS 5.

Church & Clark, for California made fireworks, diploma.
Snyder & Browning, for rifle, diploma.
San Francisco Percussion Match Company, for California made matches, diploma.
Pioneer Fuse Company, for California made fuse, diploma.
Liddle & Kaeding, for shotguns, diploma.
Wm. Rudolph, for gun lock, California patent, diploma.
Powder---yet to be reported on.

CLASS 6.

Not reported.

CLASS 7—SECTION 1.

Not reported.

CLASS 7—SECTION 2.

G. W. Cool, dental goods, gold lined vulcanite, certificate of merit.
D. S. Hutchinson, dental goods, special diploma.
H. W. Calvert, dental goods, silver medal.
Drs. Cogswell & Woodward, teeth on American vulcanite, diploma.
Dr. A. Foileau, orthopeoical instruments, California make, silver medal.
H. N. Cook, vest, artificial leg, diploma.

CLASS 8—SECTION 1.

Misigill & Cooper, California made horse shoes, certificate of merit.
Betts & Fooks, buggy springs, California made, diploma.
D. Jones, axletrees, California invention, diploma.
L. Chellis, house safes, California made, certificate of merit.
A. C. Taylor, California stove and range, diploma.
Pacific Rolling Mill, California forging, two lots, silver medal.
Jonathan Kittridge, best bank safes, diploma.
Kittridge & Leavitt, best finished safe, diploma.

CLASS 8—SECTION 2.

F. Schocner, spoon metal, California made, certificate of merit.
Pacific File Works, California made files, diploma.
W. C. Bussey, improved combination safety lock, diploma.
H. T. Graves, wire goods and safety strips, diploma.
H. J. Booth & Co., Quartz, shot and grain screens, certificate of merit.
W. A. Sublett, for improvement on window supporter, diploma.
A. M. Seaburg, for patent wood saw and stretcher, certificate of merit.
Wild & Fink, for bell hanging, California manufacture, certificate of merit.
Nelson & Doble, for blacksmith, miners and stone-cutters tools, diploma.
N. W. Spaulding, for circular saw inserted teeth, California invention, diploma.
J. Weichart, for edge tools, diploma.
B. Riley, for adjustable tongs, California invention, diploma.
J. Gray, for broomwire, California invention, diploma.
Charles Watson, for tools for cutting threads, diploma.
P. Quigley, for California made carpenters' tools, certificate of merit.
American Saw Co., for Emerson's patent saw teeth, certificate of merit.
J. H. Culver, for improved calliper, California patent and manufacture, certificate of merit.
Pacific Saw Co, for best display California made saws, silver medal.

CLASS 8—SECTION 3.

Wm. T. Garratt, for bells, cannon and brass goods California made, silver medal.
Garvey & Kimball, for California made gongs, bells, etc., certificate of merit.
C. E. Blake, for safety-valve for fire hose, California invention, diploma.
C. Allison, for hose couplings, California invention, certificate of merit.
Gallagher & Weed, for California made brass goods, diploma.
Wild & Fink, for California made gongs, diploma.
P. Caduc, for water and steam cocks, California invention, certificate of merit.

CLASS 8—SECTION 4.

Milliken & Johnson, for self-soldering cock for tin cans, etc., California invention, diploma.
R. P. Thomas, for submerged coffee boiler, California patent, certificate of merit.
C. Newman, for coal oil lamp burner, California invention, diploma.
San Francisco Lead and Shot Works, for lead manufactures and smelting works, gold medal.
Holbrook, Merrill & Co., tin and copper ware, diploma.

CLASS 9.

Menant's Asphalum Company, for asphaltum, certificate of merit.
Benecia Cement Company, for cement, diploma.
Pacific Glass Works, for California made glass, diploma.
Pacific Concrete Company, for sidewalks and drain pipes, diploma.
Noble & Gallagher, for embossed glass, diploma.
Thomas O'Neil, for ornamental cut and ground glass, certificate of merit.
John Mallon, for best cut glass, diploma.
San Francisco Glass Works, for California made glass, gold medal.
R. Mills, for stained glass, diploma.
A. Massaro, for engraved glass, diploma.
Golden State Pottery, Antioch, for California made pottery, silver medal.
Skinner & Flick, for sanitary pipe, California invention and manufacture, silver medal.

CLASS 10—SECTION 1.

I. E. Thayer, for California laurel wood, diploma.
Sheppard & Carroll, for California made lasts, diploma.
J. G. North, for stern knee for steamboat, certificate of merit.
J. W. Luisley, for hat and wig blocks, certificate of merit.
A. E. H. Sturcken, for improved window frames, diploma.
James Behrens, for tesselated pavement, certificate of merit.
Bryant & Strahan, for carved sideboard, silver medal.
J. D. Boyd, for California laurel, silver medal.
Snow & Roos, for picture frames, diploma.

CLASS 10—SECTION 2.

Figel Bros., for California made brushes, diploma.
Miss A. W. McClelland, for Peterson's patent washing machine, diploma.
Feldman & Company, for California made brushes, certificate of merit.
Elam & Howes, for California made wooden ware, gold medal.
Thurnauer & Zinn, for willow ware, certificate of merit.
F. B. Lamb, for Pioneer washing machine, certificate of merit.
Pacific Barrel and Keg Company, for California made barrels and kegs, diploma
P. Rasmunson, for California washing machine, certificate of merit.
California Wine Cooperage Company, for California made wine casks, silver medal.
J. N. Seeley, for churn and wringer, certificate of merit.
Houghton, certificate of merit.

CLASS 11.

North Star Mining Company, for specimens of ore, diploma.
G. Kustel, for specimens of ore (foreign.) silver medal.
M. Lane, for specimens of silver ore, certificate of merit.
M. Scott, specimens copper, silver and gold ores from Morning Star mine, Alpine county, diploma.
Oregon Iron Company, for samples of iron ore and pig iron, silver medal.

CLASS 12.

Crane & Brigham, for California sulphate of copper, diploma.
Standard Soap Company, for chemicals, diploma.
Bay View Chemical Works, for California made sal soda, certificate of merit.

CLASS 13.

Vanderlice & Co., for California made silverware, gold medal.
John Martell, for silver-plated coach material, diploma.
P. A. Giannini, for gold watches, diploma.
Mrs. C. Cook, for hair jewelry, diploma.
F. Hotlander, for invented watch alarm, certificate of merit.
San Francisco Plating Works, for plated ware, diploma.
C. H. Hain & Co., for silverware, certificate of merit.
William Lynch, for coat-of-arms, certificate of merit.
H. Weuzel, for California made clock, diploma.
Braverman & Levy, for silverware, certificate of merit.
Mrs. B. Uzynski, for hair jewelry, certificate of merit.
F. Heinze, for universal clock, diploma.
C. E. Collins & Co., for California made clock, diploma
R. F. Rhocchiecoli, for California plated and gilded ware, silver medal.
Haynes & Lawton, for California silver-plated ware, silver medal.
Mrs. Bolander, hair jewelry, certificate of merit.
O. B. Oakley, silver-plated ware, diploma.
Mrs. C. Cook, for landscape, hair jewelry, diploma.

CLASS 14.

F. Serigini, Pacific Business College, for ornamental penmanship and drawing, diploma.
California Business University, for commercial penmanship, diploma.
L. M. Fernandez, for specimen of ornamental penmanship, certificate of merit.
Miss A. W. McClelland, for wood engraving, diploma.
J. B. Gronppe, for wood engraving, (boy 17 years,) certificate of merit.
J. Breidensiem, for jewelry boxes, diploma.
George B. Hitchcock & Co., for copying presses, diploma.
F. M. Trueworthy, for stencil cutting, diplomn.
H. H. Bancroit & Co., for publications, silver medal.
Cubery & Co., for printing, diploma.
F. G. Edwards, for manufacturing wall paper, diplomas.
A. Foreman, for improved type macoine, siver medal.
Palmer, Knox & Co., for press and inking machine, diploma.
S. P. Taylor, for California made paper, gold medal.
Teuoner & Hoffman, for jewetry boxes, certificate of merit.
W. B. Cooke & Co., for assortment blank books, silver medal.
G. B. Hitchcock & Co., for California-made pocket-books, diploma.
J. G. Hooge & Co., for paper ruling and blank book-binding, special diploma.

CLASS 15.

Geo. P. Kimball & Co., for hnggies and wagous, gold medal.
Albert Folsom, for hnggies and wagons, silver medal.
Gallagher Bros., for hutcher cart, diploma.

CLASS 16—SECTION 1.

Main & Winchester, for saddlery and harness, gold medal.
G. Vellinger, for saddles, diploma.
M. M. Cook & Co., for California made collars, diploma.
F. T. Honghton, for side saddle, diploma.
J. Hamilton, for circus performer's saddle, certificate of merit.
A. P. Beatty, for bullion bridle, certificate of merit.

CLASS 16—SECTION 2.

L. Price, for California made ladies' boots and shoes, diploma.
W. F. Burke, for ladies' boots, galters and slippers, special diploma.
Hobart, Wentworth & Co., for men's heavy boots and shoes, diploma.
Buckingham & Hecht, for miners' boots and heavy brogans, diploma.
L. Hofman & Co., for California calf and kip skins, diploma.
Tyler, Curtis & Co., for California calfskins, kips, morocco and sole leather, certificate of merit.

CLASS 16—SECTION 3.

M. M. Cook & Son, for leather belting, diploma.
J. J. Fulton, for fire hose, diploma.
E. Galpin & Co., for leather bags and satchels, diploma.
J. Pointer & Co., for sole leather trunks, diploma.

CLASS 17.

Horst & Vishy, for decorative painting, diploma.
J. W. Cherry, for sign painting, diploma.
W. Patterson, for metallic signs, certificate of merit.
G. A. Brash, for grained doors, silver medal.
John D. Boyd, for wood polishing, diploma.
P. Gihot, for block lettering, certificate of merit.

CLASS 18.

Wigmore & Palmer, for school furniture, diploma.
Wigmore & Palmer, for Pompeian desk gold medal.
N. P. Cole & Co., for California made furniture, silver medal.
Goodwin & Co., for upholstery, silver medal.
Whittier & Fuller, for mirrors, silver medal.
Jones & Wool, for carved frame, diploma.
McElwee & Ackerman, for carpets, curtains, etc., certificate of merit.
Philip Hinckle, for patent spring bed, certificate of merit.
Krnger & Slocum, for American spring bed, certificate of merit.
W. L. Torrey, for spring bed, California invention, special diploma.
Eureka Hair Company, for Eureka hair, diploma.
Pacific Elastic Sponge Company, for elastic sponge beds, certificate of merit.
Schlueter & Voloerg, for paper drapery, certificate of merit.
P. Leisenfeldt, for billiard tables, silver medal.
Johnson & Best, for secretary and book case, certificate or merit.
L. Castagnino, for California inlaid furniture, certificate of merit.
S. Tounar, for rustic settees and chairs, certificate of merit.
W. A. Byrnes, for cricket and base ball hats, certificate of merit.
G. Rolland, for California made inlaid floor, certificate of merit.
C. Newbia, for laurel wood writing desk, diploma.
C. D. Hinckley, for wire bed springs, diploma.
J. D. Patrick for California invented bowling alley, certificate of merit.

CLASS 19—SECTION 1.

M. Heverin, for marble mantels, diploma.
Thomas Robinson, for California grindstone, diploma.
E. T. Steen, for California artificial stone, certificate of merit.

CLASS 19—SECTION 2.

P. J. Devine, for marble bust, silver medal.
P. Mezzara, for plaster reliefs and busts, diploma. Same, for cameos, silver medal.

CLASS 20.

Pacific Oil and Lead Works, for California made oils, gold medal.
O. A. Olmstead, for mineral paints, silver medal.
Epes & E. H. R Ellery, for India-rubber paint, diploma.
J. B. Parsons & Co., for Bowman's Washing Fluid, certificate of merit.
Santa Cruz Glue Company, for neatsfoot oil and glue, diploma.
San Francisco Candle Company, for California made candles, silver medal.
Standard Soap Co., for family and fancy soaps, silver medal.
H. Lake, for California blacking, diploma.
J. Herkimer, for water-proof blacking, diploma.
Eureka Soap Co., for family soap, certificate of merit.
C. G. Kelly & Co., for washing fluid, diploma.
J. J. Hucks, axle grease, diploma.
Hill & Perreynes, for copper paint, diploma.
G. Lewis, for olive oil, diploma.

CLASS 21—SECTION 1.

William Marple, for (Cascade Lake) best landscape in oil, diploma.
George B. Butler, for best portrait in oil, diploma.
George H. Burgess, for best portrait in water colors, diploma.
Charles C. Nahl, for (The Surprise) best animal or figure painting, diploma.
Otto Schrader & Brother, for best frescoe and decorative painting, diploma.
S. M. Brooks, for (a string of fish) best still life painting, diploma.
T. Renault, for (Horses Fighting) best pencil drawing, diploma. Exhibitor 13 years old.

CLASS 21—SECTION 2.

F. E. Mills, for anthophotoscope, silver medal.
C. E. Watkins, for photographic views, silver medal.
Snip Selleck, for plain photographs, silver medal.
H. W Vaughan, for colored photographs, silver medal; for retouched photographs, diploma.

CLASS 22.

Jacob Zech, for best upright pianos, gold medal.
G. Rudolph, for upright pianos, silver medal.
Jacob Zech, for square piano, diploma
C. C. Keene, for musical instruments, diploma.
John G. Dawes, for flute, diploma.
M. Lawlon, for toy piano, certificate of merit.

CLASS 23.

Alexander Mackay, for rag carpets, diploma.
Pacific Woolen Mills, for knit goods, gold medal.
Marysville Woolen Mills, for blankets and flannels, certificate of merit.
Oakland Cotton Mills, for cotton goods, diploma.

CLASS 24.

Adolph Muller, for best display of manufactured fure, silver medal.
D. Norcross, for best California made regalia and military goods, diploma.
H. Liebes, for display of furs, diploma.
T. R. Johnson, for California made regalia and military goods, certificate of merit.
Blake & Co., for California made regalia and military goods, certificate of merit.
S. Figel, for boys' clothing, diploma.
J. Figel, for boys' clothing, certificate of merit.
S. Reinstein, for California made clothing, diploma.
J. Lancaster, for men's pants, certificate of merit.
H. M. Heineman, for neckties, diploma.
J. De Barr, for California made umbrellas, diploma.
J. Alsop, for California made parasols, certificate of merit.
Ladies' Coöperative Union, for California made shirts, diploma.
M. Eisberg, for California made shirts, certificate of merit.
Ladies' Coöperative Union, for dressing-gown, diploma.

CLASS 25.

L. Prevost, for best display of cocoons, silver medal.
R. Williamson, for mulberry trees, diploma.
J. Neuman, for silk manufactory, diploma.
J. Neuman, for silk winding machine, silver medal.

CLASS 26.

Meyer Jonasson & Co., for cloaks, silver medal.
Mrs. Thomas J. Winship, for millinery, silver medal.
Ladies' Coöperative Union, for general needlework, silver medal.
S. Rosenblatt, for dresses and shawls, certificate of merit.
Mrs. Capt. J. A. Johnson, for affghan embroidery, diploma.
Mrs. W. C. Wilson, for patchwork quilts, diploma.
Miss A. Good, for silk quilt, certificate of merit.
Mrs. G. S. Harris, for leather and seed flowers, certificate of merit.
T. Entz, for perforated stamping patterns, diploma.
Pacific Straw Works, for straw goods, diploma.
Mrs. A. Bolander, for embroidery and stamping, certificate of merit.
Mrs. C. S. Sullivan, for embroidered initials and stamping, certificate of merit.
Miss F. Breese, for tatting parasol cover, certificate of merit.
Mrs. F. Gabriel, for fish scale embroidery, certificate of merit.
Currier & Winter, for seaweed, certificate of merit.
John F. Snow, for cleaned gloves and furs, certificate of merit.
Mrs. J. F. Clement, (aged 60 years,) for tatting collars, diploma.
Mrs. Barringer, for Mrs. Curtis's method of dress cutting, diploma.
Miss Veronica Crane, (13 years old,) for worsted work, diploma.
Miss F. R. Jacks, for needlework collar, certificate of merit.
Mrs. Juliana Bayer, Sacramento, for raised embroidery, certificate of merit.
Clans & Co., for artificial flower baskets, certificate of merit.
Mrs. E. T. Newton, for carpet and rug, diploma.
Mrs. A. S. Knaop, (aged 60 years,) for table covers and spread, diploma.
Miss T. McClure, for phantom wreath, certificate of merit.
Mary Haviland, for pencil sketch and wreath, certificate of merit.
Mrs. G. Mohrent, for bedspreads and baby's shawl, diploma
Miss A. Murphy, for patchwork quilt, certificate of merit.
Mrs. P. C. Poole, for worsted worked sofa pillow, certificate of merit.
Jacobs, Newman & Co., for California made hoop skirts, certificate of merit.
Golden City Straw Works, for straw and fancy bonnet frames, certificate of merit.
Miss A. Van Ronn, for counterpane and table covers, certificate of merit.
Mrs. Watson, (aged 80 years,) for knitted tidy and stockings, diploma.

[Continued on Page 206.]

Mechanical.

A New Dynamometer, or Force Measurer, from Oregon.

A Dynamometer is an instrument for measuring force, in mechanics. Its use is to determine the force used or necessary to be used in driving any given machine or part. The want of an instrument of this kind, which would accurately registor power, has been felt by mechanics ever since the invention of machinery, and hundreds if not thousands of unsuccessful attempts have been made to construct such an one. An editorial writer in the *Scientific American* mentions some of the errors into which the best engineers have always fallen in calculating the powers absorbed by vented machinery, and deplores the fact that no accurate method of measuring force has ever been found. Itsays: "Thorough method of calculating the amount of power delivered or transmitted, by the width of the driven belt - a plan which was common enough a few years ago and may be now—is as ridiculous and as far from the truth as the formula of the astronomical instructor who taught the pupils, in estimating the distance of the fixed stars from our planet, to guess at the distance and multiply by four." A paper by one of the most eminent English engineers, on this subject, after mentioning and describing two of the best instruments in use, says: "We find ourself compelled in the face of those two best indicators yet made, to declare that an absolutely perfect instrument of the kind remains yet to be invented." There seems to be no difficulty in measuring force exerted in a straight line; the trouble is to calculate power exerted in a rotary direction, especially where it is irregular or eccentric, as in cam movements. We have some assurance that this difficulty is about to be overcome by an invention of our fellow-townsman, John W. Sutton. He has constructed an instrument which, though notcomplete, is in operation at the Willamette Iron Works, and promises the most flattering and astonishing results. A number of mechanics who have examined it pronounce the most favorable opinion of its accuracy, and it would seem that it can scarcely fail to take the leading position among all the rotary dynamometers known. It would be useless to undertake an intelligible description of it without ample means of illustration; but we can give a general idea of the principle upon which it works. It consists of two disks placed upon a shaft and a hollow shaft so that they may move relatively without appreciable friction. One of these disks is fastened to the driving pulley; the other to the main shaft. The two disks are attached by means of spiral springs. When the driving pulley starts, it carries the attached disk and that in turn, by means of the spiral spring connection, drags after it the other disk which is attached to and turns the shaft. The springs, of course, are drawn out by the advance movement of the first disk and the lagging movement of the other. The relative movement or change of position of the two disks, by meaus of cog gearing within moves a cogged rack, back and forth as the power is increased or diminished and as the two disks change their relative positions. The rack moves a collar along the shaft and by an indicating point registers the power. The spiral springs are drawn or elongated, and contracted according as the strain of the driving power and the resisting machinery is greater or less. The disks change relative positions in exact proportions, and every change, however minute, is marked by the indicator upon the gauge. Thus if it be known how much power it requires to elongate the springs a given distance, it becomes a simple mathematical calculation involving only rules well known to engineers, to determine the force applied, or what is equivalent, the resistance of the machinery. Mr. Sutton's instrument has a gauge based upon these calculations, which may be made to show at any instant the number of horse powers, or thousands of pounds, or even pounds, of force exerted. He has filed a *caveat* for a patent and taken all the necessary steps to procure it. The model may be seen for a few days at the Willamette Iron Works, where it is now being finished. All the mechanics who have seen it say that Mr. Sutton has certainly made an important and valuable discovery.—*Portland Oregonian.*

Steel Boilers.—Boiler plates made of cast steel have recently been subjected to a series of practical experiments, in order to test their value as compared with those made of wrought iron. The trials were made at Harkett's Ironworks, in Westphalia, and the results are reported to have been decidedly in favor of steel.

Cheap Steam Engines.—An English manufacturing firm has recently brought out a novelty in steam engines, as far as relates to the price, in a two-horse power horizontal engine, of good construction, which is sold for the sum of eighteen pounds. Considerable credit is due to the manufacturers of such an engine, for the skill required in designing it to meet such conditions. This is the line of march that Progress must take in regard to the steam engine.

Bridging the Mississippi at St. Louis. The construction of a bridge across the Mississippi has been commenced under the engineering of Capt. J. B. Eads, who has selected a spot where the river is 1,500 feet wide, and proposes three spans, the center of which is 515 feet, and the two side ones 497 feet each. The bed of the river is a shifting mass of sand overlying a bed of rock to a considerable depth, involving the construction of a pier 145 feet in height from the rock to the lower roadway.

Iron Smelting Operations in Mexico.—An enterprising English company, after overcoming almost insurmountable difficulties, have established two extensive ironworks at Zimapan, in Mexico. In these works steady employment is given to between 500 and 600 native laborers, and over 600 tons of iron are annually manufactured into bars or other varieties of merchantable iron, and sent to the City of Mexico over a difficult mountain road, built and kept in condition by this company, at their own expense, the Government never contributing in labor or money to its construction.

North of China Gold Mines.

Dr. Macgowan, who is occupied in preparing a work in Chinese on "Mining and Metallurgical Opperations for the Government of China," sends us the following information respecting the newly discovered gold mines in the north of China:

The intelligence of the discoveries of gold in the Promontory of Shantung will have reached San Francisco by preceding mails, and have occasioned, I apprehend, some excitement among the hardy, restless and adventurous miners of California and adjacent mining regions. I shall not say that reports have been transmitted to California and Australia with the design of creating an excitement amongst their nomadic inhabitants, but I can affirm that there is no concealment on the part of many here of the desire they entertain for an arrival of Californian and Australian fillibusters; nor is the object of that desire concealed, that object being the employment of miners to revolutionize the country at least to the extent of overthrowing Chinese exclusiveness; in other words, to render nugatory such treaty obligations as are distasteful to foreigners. The well-being of those who are to bring about those changes is as little considered as the feelings of Chinamen in the matter.

Considerations of this nature, and the requirements of good faith, have induced the Consuls of the various treaty powers to notify their nationals that until the Imperial Government sees fit to change its policy, they will aid the Chinese in enforcing the laws. As these laws prohibit the working of the mines alike to natives and foreigners, our mining friends should consider well the situation before expatriating themselves.

There is another consideration which deserves attention, and which many miners can appreciate even in California and Australia: Chinamen can afford to work cheaper than white men, and it is likely that with the additional advantage of being at home, he can so compete with the foreigner as to impoverish the latter.

It has been predicted that within a few months we shall have a rush of miners here, numbering some two thousand. The prophesy was to effect that immigration, and if the mines should prove unproductive the men thus allured are likely to be great sufferers. With regard to the productiveness of the diggings, nothing can be positively affirmed. It is almost demonstrated that rich auriferous quartz is abundant; also, silver, copper and coal. But whether or not the miner, whose capital is his hands, can delve and live, is more than any man can say at present.

On these grounds I counsel American miners to stay at home.

Scientific Miscellany.

Familiarity With and Uses of Electro-Magnetism.

Were it not for the two great discoveries of telegraphy and electro-metallurgy the greater portion of our knowledge of electricity would be confined to scientific men. From unnumbered experiments that have been made, it seems the generation of electricity is a phenomenon generally attendant upon the contact or conjunction of two materials of different natures; thus, not only may it be derived from the decomposition of zinc in an ordinary galvanic battery, but also by the simple contact of the zinc with another metal, as with iron, the tension of the electrical current being in either case proportioned to the rapidity with which the zinc is oxidized. In like manner experimental batteries have been made simply of alternate layers or slices of two different kinds of vegetables, and also of alternate disks of two different varieties of wood. Pins or bolts of one variety of wood driven into the hulls of ships formed of another variety, have been found to produce currents of appreciable strength, and sufficient to affect the adjacent metallic sheathing.

Amongst the later applications of electricity to utilitarian purposes are the Saxby method of detecting flaws in iron, by which the deflection of the needle when passed along an iron bar or shaft indicates the want of homogeneousness in the metal, and the resulting unreliability of the same; the electric test for the detection of adulteration in oils, devised some years ago by a French savant, and since extended by an English experiment founded upon the discovery that the number of vibrations and the degree of resistance of the magnetic needle, when made to form part of an electric current, are affected by a given oil to a greater or less degree, according as the latter is more or less pure; and the experiments made by M. Duchemin, under the authority of the French Governmeat, relative to the practical use of the electricity generated by the destruction of zinc in seawater, in which he has succeeded in ringing an electrical bell for two months continuously, the success thus far attained encouraging the projector to propose other uses by similar means, as the protection from rust of the bottoms of iron-clads, by insuring communication between the armor and a powerful pile placed in the sea-water.

The Japanese Earthquake Alarm not Reliable.—The following experiment was made by Mr. Henry G. Hanks, of this city, for the purpose of testing the reliability of the "Japanese Earthquake Alarm." We give his own words:

"Having heard the Japanese instrument described, I made an experiment to satisfy myself whether it was true or otherwise. I procured a small but powerful magnet which I suspended from the ceiling of my bed-room over my table. To the keeper I hung a small tin pan, like the pan of a balance. This I loaded continuously with weights until I had ascertained the full power of the magnet. I then hung a bar of iron of equal weight to the maguet without any other support than the attraction. It is evident that the slightest decrease of attractive power on the part of the magnet would have allowed the pan to fall. The weight of the bar was 2,578 kilogrammes—over five and a half pounds avoirdupois. This arrangement remained suspended for several months, the bar pointing steadily to the magnetic north. During this time we had several earthquakes. Even the motion did not shake down the suspended bar. From this experiment I am led to believe that the Japanese indicator is a myth, or that the earthquakes are governed by different laws in Japan than they are on this side of the Pacific. I have since conversed with parties who have resided some time in Japan, upon the subject. They have all heard of it, but I have failed to find any one who has seen it. I wish the "story" could be traced to its source, for such a statement should not go without contradiction. I do not know what such an earthquake as that lately experienced in South America might do, but my own experiments have proved to me that our ordinary California earthquakes do not effect the attractive power of the magnet in the slightest degree."

Artificial Mineralogy.—The following receipt for a foundation glass to make artificial precious stones, and the mineral coloring matter to be added to make imitations of particular minerals, are instructive to the student of mineralogy: M. Elsner recommends tho taking of 45·7 grammes of pure quartz, 22·8 grammes of pure and dry carbonate of soda, 7·6 grammes of borax, 3·4 grammes of niter, and 11·8 grammes of minium. These ingredients, reduced to a fine powder and well mixed, are brought to perfect fusion in a Hessian crucible over a charcoal fire. To color this mass add, for sapphires, 0·106 grammes of carbonate of cobalt; for emeralds, 0·53 grammes of oxide of iron; for amethysts, 0·265 grammes of carbonate of manganese; for topaz, 1·59 grammes of oxide of uranium. In all cases the fusion must be perfect, or a clear glass will not be obtained. Cutting greatly improves these imitations.

Carbonization of Wood.—M. Gillot, in his memoir to the French Academy of Sciences on this subject, says the only condition essential for the production of good charcoal, is that the operation shall proceed slowly. The decomposition of wood commences at about the boiling point of water. In this way a given amount of wood will yield about two-thirds its weight of charcoal, and seven or eight per cent. of acetic acid.

Manufacture of Sulphuric Acid.—A new process for the production of sulphuric acid has been patented in France by MM. Tardani and De Susini. Its great recommendation is that it dispenses with the large leaden chambers. The sulphur or pyrites is burned in compressed air, and the sulphurous acid is first washed to free it from arsenic, etc., and is then brought into contact with the nitric vapors in a small leaden chamber of peculiar construction.—*Gas Light Journal.*

Charcoal Dust or Lamp-black as a Disinfectant.—The disagreeable smell peculiar to india-rubber may be got rid of by means of charcoal and, better still, by lamp-black, which, as is well known, has the property of absorbing gaseous substances. The articles to be disinfected are put into a close vessel, covered over with charcoal-dust, and then exposed for a few hours to a temperature of from 60 to 70 degrees Centigrade, by means of a water bath. When the articles are taken out the charcoal-dust is brushed off, and it will then be found that they have lost every trace of bad smell.

California and Nevada Drying up.—At the recent meeting of the Scientific Association at Chicago, Prof. W. P. Blake read a short paper "on the gradual desiccation of the western portion of North America." He said that the interior lakes in the chain of the Sierra Nevada were giving ample evidence of wasting away, being surrounded by water-lines, old beaches and terraces. Some of the existing lakes had broad tracts of lacustrine clay, extending a considerable distance from their present shores. The lakes of Mexico have also much narrower beds than formerly, and there were evidences of the decrease of water in them within historic times. There were no traces of volcanic action or any paroxysmal movement to produce so great a change. It was impossible to avoid the conclusion that the gradual disappearance of these vast lakes was due not to changes of level but to grand climatic changes,—to a gradual decrease of precipitation which not only appeared to be continental but to be world-wide, inasmuch as similar conditions were found in Central Asia and elsewhere. He referred to the gradual extinction of glaciers from the south northward, and regarded this as connected with the decrease of precipitation.

Within the last year business in Folsom has increased to a considerable extent; new buildings have been erected, and real estate has taken an upward tendency, and there has been a steady increase in population, and confidence in the future growth and prosperity of the town has been fully established.

There are 13 steam threshers now at work in Salinas Valley, Santa Cruz county, threshing out an average of 500 bushels per day, and there is a demand for at least eight more.

[Reported for the Mining and Scientific Press.]

Fifteenth Annual State Fair.

The attendance at the Fair this year is uuusually large, and the display of articles on exhibition in the various departments is exceedingly fine and creditable to the State. Many articles were late in making their appearauce here, owing to the continuance of the Mechanics' Institute Fair at San Francisco, hardly giving time to transport and arrange them in the time intervening hetween the closing of one and the openiug of the other. Notwithstanding this necessary delay, the articles made a good display on Friday, and on Saturday everything was in successful operation. The attendance at the Hall during the day is not large, which is no douht owing to the attractions at the Park, where the stock is on exhihition, and one or more races come off every afternoon at 2 o'clock. In the evening crowds assemble in the pavilion, filling the various rooms to such an extent as to make locomotion exceedingly difficult. In my opinion, the huilding is much too small, not to say inconvenient, for the proper display of the increasing uumher of articles which seek exhibitiou at all our Fairs. But this will no doubt he remedied another year, by ample additions to the present huilding, as I understand the Society has ample room adjoining for all future needs.

Willis' Band, of San Francisco, furnishes the music at the pavilion, which is a guarantee that visitors will he well entertained.

On Thursday evening the Introductory Address was delivered hy the President of the State Agricultural Society, C. F. Reed, of Yolo. He congratulated the farmers of the State on their prosperous coudition in the following langnage: "Our farmers are not only doing well, and laying up a competency for themselves and famililies, but they are absolutely becoming rich. An abundance of crops and highly remunerative prices are filling their coffers with gold and silver; enabling them to improve and beautify their farms and homes, to build uew and commodious dwellings and barns, to purchase and use the most approved labor-saving machinery in the cultivation of their land and the gathering and saving of their crops; to supply their families with all the necessarics aud luxuries enjoyed by older and less favored communities. As prospers agriculture, the great fountain of all wealth, the great mother of all other occupations, and promoter of all civilizatiou, so prosper the towus and cities, the State and the entire people." The address was an ahle one, and was listened to with evident interest by all who were present.

I shall not attempt to give a list of even the most prominent articles on exhibition in any department, much less to attempt to describe them. Many of the articles exhibited here, were on exhibition at the late Mechanics' Institute Fair in San Francisco, and were fully described in the Daily Fair Press; in fact, to leave out all those articles, would be to materially curtail this exhibition. But this was to be expected.

THE MACHINERY DEPARTMENT.

This department of the exhibition is not as fully represeuted as I expected to find it. The main propelling power is furuished by Wright's Pateut Variahle Cut-off Steam Engine, built at the Pacific Iron Works, San Francisco, and was ou exhibition at the Mechanics' Institute Fair, where it was much admired, and received a gold medal as the best steam engine entered for competion there. It was fully described iu a recent number of the Press.

Numerous diminutive steam engines are scattered through the building, doing good service as motors.

J. Hendy, of San Francisco, has ou exhibition two of his improved concentrators, which are in practical operation. These concentrators receivcd a diploma at the Mechanics' Instute Fair of San Francisco.

There are a large numher of pumps on exhibition, and considerahle interest is manifested as to the merits of the several inventions. Those representing these pumps are always ready to point out what they consider their superior merits, and each pump is extolled in a manner that wonld do credit to a modern auctioueer. We noticed the American and Gerrish suhmerged pumps in operation. Mr. M. D. Lasswell, of San Francisco, has a numher of pumps on exhibition. These pumps make a fiue display, and are one of the hest features in the machinery department.

Pierce's patent incline elevator is on exhibition, and is much admired for its ingenuity and novelty.

J. B. Johnson, of San Francisco, has on exhibition a patent friction hoist, for which he received a diploma at the Mechanics' Institute Fair.

AGRICULTURAL IMPLEMENTS.

The display of agricultural implements is very large and creditahle. I noticed articles from Messrs. Baker & Hamilton, of Sacramento, Treadwell & Co., of San Francisco, Wehster Bros., of Stockton, and some others, who display a large assortment of all kinds of implements, from the gang plow, which first turns up the soil and prepares it for receiving the seed, to the reaper and header, which gathers the ripened grain, and the thresher, which completes the harvestiug operation. I also noticed in this department, Walton's patent iron-headed hay-fork, which seems admirahly adapted for the purposes for which it is designed. A caveat has been filed for this invention.

IN THE UPPER HALL

are exhibited miscellaneous articles in great profnsiou and variety. The sewing machine department is represented by all the different inventions, and there is sharp competition. The Art Gallery is well filled with paintings and photographs of superior merit. The manufacture of silk by the Messrs. Newman, of San Jose, or the State at large, as they themselves express it, is a very interesting feature, as it was at the Fair in San Francisco. The exhibition of cocoous is also very numerous and fine. It would take much space to enumerate half of the prominent articles that are tastefully and profusely displayed in this room. The Pioneer and Mission Woolen Mills of San Francisco, make a magnificent display of their goods. But I will not further particularize; suffice it to say, that the exhibition is pronounced superior to any of its predecessors in this department.

I noticed in a small room adjoining the the upper hall, a circular iron-clad floating battery, designed for harbor defence, by R. Rutter, of Vallejo. It is a neatly executed model.

IN THE LOWER HALL

are displayed the fruit, vegetables, and numerous manufactured articles. There was not so large a display of fruit as I expected to find here. The fruit, such as apples, pears, peaches, plums, etc., was very fine though not extensive. Grapes were in great ahuudance and very fine. We doubt if there was ever exhibited at a State Fair anywhere, a greater variety than is here displayed. The vegetahle kingdom was represented by giants; squashes of such huge dimensions that I will not even give the figures boldly painted on their plump sides, were laid upon the well supported tables; beets, that looked more like the underground growth of the forest, than of the vegetable kingdom, were here shown; but I need not give a description of these vegetahles, for auy one who has spent six months in California, has seen their counterparts in our markets.

The American Saw Company, and Pacific Saw Company, of San Francisco, are well represented, the former, we understand, only for exhibition, the latter for competition with any and all saws, either of foreign or home manufacture.

THE STOCK.

At the Park there is a fine display of stock, consisting of horses, horned cattle, sheep, Cashmere goats, swine, poultry, etc. At no previous exhibition of this Society, I am told, has there heen so fine a collection of thorough hred horses. Norfolk and Lodi are herc, and are exercised in front of the judges' stand every day. They are prohahly the finest horses of their class on this continent. The stock on exhibition is all very fine, and would do credit to older States than ours.

THE STEAM PLOW

of Coffin & Standish, of Martinez, attracts a good deal of attention here. It is exercised on the track to show its propelling power, and hefore the Fair closes will he put to practical test in plowing. The operation of this plow has heen so recently fully described in the columns of the Press, that I need not speak of it further than to mention its presence here.

Sacramento, Sept. 21, 1868. S.

Scientific Reconnoissance of Russian America.

We were much gratified on Thursday to meet Mr. Wm. H. Dall, late Chargé of the Russian American Telegraphic Scientific corps, shortly after he had stepped ashore from the schooner Francis L. Steele, 18 days from the Fox Islands, and the month of Yucon river, Behrings Straits. Mr. Dall was one of Prof. Agassiz's former pupils, and he has shown himself quite an enthusiast in science, especially in the departments of geology and zoölogy. Bronzed and rusty in appearance, he reminded us strongly of the little Frenchman Du Chaillu, as he looked when he landed at New York fresh from his first African adventures, and before the world knew anything about him and his gorillas. Full of narrative of the most wonderful adventures, the explorer and real adventurer does not realize himself how eloquent a simply told story becomes to the listener. Mr. Dall went out with the Western Telegraph Expedition in 1866, having previously spent two or three winters in San Francisco; and most of the time since then he has been traveling through and surveying the very heart of Russian America—not Sitka, but that far northwestern corner of the continent which fronts on Behrings Straits, and which is drained through its center by a great river flowing nearly due westward, occupying a hasin nearly as large as that of the Mississippi river. This is the *Yucon* river, and a country which is marked "unexplored" on the hest maps that can be had.

Bark or skin canoes and dog sleds are the modes of conveyance. Kotzebue Sound on the Arctic, was a point that Mr. Dall conld not quite reach, because he "got out of dog feed." We did not think of interrupting him to ascertain what that was composed of.

When Major Kennicott died, Mr. Dall remained in charge of the scientific corps; it being a year before they knew that the telegraph enterprise was abandoned. The winter of 1866-7 was spent at Nulato, in the interior, about 700 miles up Yucon river, or 220 miles from Norton Sound, on the Behring sea, by portage overland. In the spring of 1867, Mr. Dall continued his journey up the Yucon, 600 miles further, to a Hudson Bay Company's fort, kept by a Scotchman with the healthy sounding name of McDougal. This was on the borders of Russian and British America, not far from the Arctic ocean. Mr. Dall seems to have convinced Mr. McDougal that he and his Esquimaux subjects were located just a little inside of the United States line.

Returning to St. Michael's Bay, at the month of the Yucon,—a canoe voyage of 1,300 miles,—he first learned, in the fall of 1867, that the Telegraph Company had given up their designs. But as the work which Mr. Dall had laid out for himself was not completed, he immediately resolved to continue it at his own expense. The plan was to make a geological reconnoissance of the country, and to collect as many zoölogical and other specimens from those regions as possihle, for the Smithsonian Institute. The next year he went up to Nulato again, to fill in gaps in his survey, where the mosquitos seem to have been too thick for scientific observations. On getting to the mouth of the Yucon in the summer of 1868, he amused himself by shooting, and preparing specimens, till one day an Indian came along and told him that two American "ships" were in Norton's Sound. Thereupon there was a hasty packing up, the Francis L. Steele was duly reached, and at the same time an opportunity was found to talk English again; Russian and Indian having been the only means of communication for months, as Mr. Dall had heen latterly traveling alone amongst the Indians. The schooner was trading on behalf of the Pioneer Fur Company, which is composed of men who were in the employ of the Western Union Telegraph Company.

Reference heing made, incidentally, to the late Mechanics' Institute Fair, Mr. Dall inquired of us with a good deal of interest about the Paris Exposition—"whether it had taken place," and "whether it had not proved a kind of failure," as it was thought it would do when he left the confines of telegraph and newspaperdom.

Next week we will furnish our readers with a more detailed account of the country explored by Mr. Dall. We may add here that he has procured fossils enough to determine the geological age of the country visited, and upwards of 1,000 zoölogieal specimens.

New Patents Issued to Pacific Coast Inventors.

Specially reported by the U. S. Patent Office, Washington, D. C., to Dewey & Co., American and Foreign Patent Solicitors, and Publishers of the Mining and Scientific Press.

Issued for the Week Ending September 9th, 1868.

81,894.—Improvement in Explosive Compounds.—Joseph Hafenegger, San Francisco, Cal.:

I claim the within described explosive compounds consisting of Nos. 1, 2, 3, 4, 5, made of the ingredients enumerated, mixed or compounded in about the proportions specified. I also claim the self-igniting match, compounded of the liquids or fluids enumerated, whether applied separately or mixed to the explosive compounds or materials sought to be ignited or exploded, substantially as described.

This patent was noticed at length in our issue of Sept. 12th, 1868.

81,910.—Improvement in Escapements.—Wm. C. Kellum, San Francisco, Cal.:

1. I claim the detent F, and the adjusting screw d, together with the curved arm H, and the spring I, operating by the liberating pin a, or its equivalents locking by spring or gravitation, substantially as and for the purpose described.

2. The escape wheel B, moving in a plane parallel to that of the balance staff and of the plates A, A, and giving impulse to the pallet c, either from the sides or point of the teeth, in combination with the detent F, arm H, and spring I, substantially as described.

3. The balance staff c, standing parallel with the plate A, and the liberating pin a, passing alternately above and below the lip J, at each vibration, substantially as described.

We shall mention this patent next week.

81,992.—Improved Dye Stuff.—C. E. Fox and Mary E. Fox, Gilroy, Cal.:

What we claim as our invention and desire to secure by letters patent is the extract (or coloring matter) of manzanita as a new article of manufacture for its various uses as herein specified.

REISSUES.

3,114.—Improvement in Gang Plow.—Don Carlos Matteson, Stockton, Cal.:

I claim the arrangement as described of the false beam N, goose neck G, axle *n*, lever *i*, catch L, and the system of plows attached to their frame as set forth, the whole being constructed and operating substantially as and for the purposes specified.

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board.

San Francisco, September 26, 1868.

City Stocks.

In miscellaneous stocks there has been little doing during the past week, and Board transactions were limited to a few companies. Sales of Spring Valley Water Company stock were effected at $66 25, and National Insurance Company at $72 per share. At the close, North Beach and Mission Railroad stock sold at $67 50, and Spring Valley Water at $66@66 25.

The annual meeting of the stockholders of the Bank of California will be held at the banking house in this city on Tuesday, October 6th, at 11 o'clock, for the election of a Board of Trustees for the ensuing year, and the transaction of other business.

The receipts of the local insurance companies during the month of August and previously this year, according to the returns in the hands of the Internal Revenue Collector of this district, have been as follows:

	August.	Previously this year.	Total.
Pacific	$35,914	$444,525	$540,439
Union	41,484	234,614	276,098
National	.....	201,253	201,253
Fireman's Fund	20,414	132,142	152,556
Builders'	19,125	142,452	161,577
California	7,550	87,057	94,587
Merchants' Mutual Marino	25,181	121,457	146,638
Occidental	12,523	52,909	65,432
Home Mutual	12,857	73,987	86,844
San Francisco	.....	25,974	25,974
Peoples'	6,298	45,514	51,812
Totals	$241,436	$1,561,754	$1,803,190
Same time in 1867	248,696	1,246,366	1,494,972
Increase in 1868	.....	$315,388	$308,218
Decrease in 1868	$7,170	.....	.....

The returns were made upon a legal tender basis, the rate—72 cents for January, 71 cents for February, 72 cents for March, April, May and June, and 70 cents for July and August—being fixed every month by the Assessor of the district.

The National and San Francisco have disincorporated and their outstanding risks have been transferred to the London and Liverpool and Globe Insurance Company.

The above statement shows an increase of $21,640 as against the receipts in July. The receipts of the several companies in August, as compared with July, show the following difference:

	Increase.	Decrease.
Pacific	$20,346	.....
Union	5,084	.....
Fireman's Fund	1,857	.....
Builders'	.....	$2,251
California	.....	3,457
Merchants' Mutual Marino	1,471	.....
Occidental	229	.....
Home Mutual	.....	557
People's	.....	782

The receipts of the city railroads for the month of August and previously this year, have been as follows:

	August.	Previously this year.	Total.
Omnibus	$21,906	$175,745	$203,651
North Beach & Mission	26,624	154,234	180,808
Central	17,323	96,256	113,579
Front Street, Mission & Ocean	9,844	57,751	67,595
Market Street	11,998	60,838	72,836
Potrero and Bay View	2,950	13,369	16,319
Totals	$86,645	$558,192	$654,838
Same time in 1867	75,643	453,729	529,372
Increase in 1868	$21,002	$104,461	$125,466

Showing an aggregate increase of $4,227 in August over the receipts of July. The receipts of August as against July show the following difference:

	Increase.	Decrease.
Omnibus	.....	$920
North Beach and Mission	$1,960	.....
Central	1,857	.....
Front Street, Mission and Ocean	527	.....
Market Street	654	.....
Potrero and Bay View	147	.....

The receipts of the San Francisco and San José Railroad were $50,823 in May; $51,425 in June; $52,502 in July, and $52,663 in August. The Mission Bridge Co. report receipts for August to be $1,201.

Mining Share Market.

The mining share market exhibited more vitality during the past week, and increased confidence is manifested in some of the more prominent claims on the Comstock lode. The aggregate transactions have also been larger, and a general improvement in prices was noticeable up to the 23d instant, after which a slight recession took place. At the close, the market is somewhat more buoyant.

Yellow Jacket—has been somewhat more active at better prices, rising from $1,145 to $1,270, receding to $1,235, and closing at $1,275. After many efforts we are at last enabled to publish the following annual report of this company for the year ending June 30, 1868:

RECEIPTS.

Balance at credit of Company last Annual Report		$116,086 54
Assessment No. 9—Oct. 12, 1867	120,000 00	
Assessment No. 10—Nov. 15, 1867	120,000 00	
Assessment No. 11—Jan. 22, 1868	150,000 00	
Bullion—34,118½ tons of ore, average yield per ton, $19 50	676,861 39	
Ores sold	5,112 51	
Profits of Morgan Mill for the year	40,821 78	
Hoisting ore for Kentuck Company	10,896 00	
Cash received over expenses of advertising assessments	776 02	
		$1,240,585 34

DISBURSEMENTS.

Dividend No. 13		$ 90,000 00
Labor at Mine	294,833 62	
Reduction—Outside Mills	254,228 16	
Company Mill	263,415 42	
Legal Expenses	14,848 88	
Wood for Mine	45,421 72	
Timber and Lagging	62,070 10	
Improvements at South Hoisting Works	45,368 26	
Assay Fees, Discount and Federal Tax on Bullion	21,801 51	
Salaries of Officers	20,303 33	
Mine Supplies, Candles, Oil, Iron, etc.	38,717 08	
General Expenses	29,142 36	
Sundries	11,176 37	
Balance at credit of Company over all Liabilities	49,249 13	
		$1,240,585 34

The following balance sheet is submitted by the Company for the fiscal year ending June 30, 1868:

LIABILITIES.

Bills Payable	$38,671 86	
Dividends uncalled for	2,575 00	
Balance due Mills	23,179 12	
Sundry accounts	2,396 01	
		$66,821 99
Balance at credit of Company	49,249 13	
		$116,071 12

ASSETS.

Cash in Bank of California	$104,724 17	
Sundry accounts	7,314 80	
Morgan Mill Supplies	2,304 18	
Mine Supplies	302 97	
Assessment on one foot unissued stock	825 00	
		$116,071 12

Imperial—sold to a moderate extent at improved prices, advancing from $93 to $99, and closing at $100. The receipts of bullion to date for September account foot up $25,325. The main shaft is now 78 feet in depth below the 900 level. The drift on the 900 level is 340 feet from the shaft, having about forty feet to run to get under the body of ore now being worked on the 700 level of the Alta mine. The raise from the 900 level is up 120 feet, and the winze from the 700 level of the Alta mine is down 110 feet, leaving 50 feet yet to run to make the connection between the old and new shafts. They are now opening a body of ore eight feet thick at a point 25 feet below the 150 level of the Alta mine, west and south of shaft, assays of which show from $25 to $40 to the ton.

Amador—was in the market at $240. The receipts of bullion for the first half of the present month amounted to $24,400.

We herewith give some general information regarding this mine, which we deem of great interest, since our California quartz mining companies are steadily gaining in public favor. "The mine was located in 1850, and staked out 1,850 feet on the ledge. In 1858 it was bought by Alvluza Hayward, and in October, 1867, it was put on the stock market. There are two working shafts on this claim—the Eureka and Badger—the first being over 1100 feet in depth on the ledge, and the other, distant 376 feet from the first, has been connected with the latter in the lower drift. From a careful estimate, made by Mr. Bowie, mining engineer, some six months ago, the ore in sight was valued at nearly $1,800,000, the vein ranging between three and eighteen feet in thickness, and yielding from $12 to $20 per ton. Deducting 30 per cent. for working, etc., there remains about $1,250,000 net profit. The average cost of working a ton of ore, during the month of January last, was $5 76; for the entire year, however, the average is higher. During the thirteen months ending with January, 1868, there were extracted and milled 26,714 tons, giving a gross yield of $536,000, equal to $20 per ton. The milling cost of the above amount of ore was $6 04 per ton. We give the following estimated reexpitulation, made early this year:

Net value of Reserves, deducting 25 per cent. for over estimates, etc	$847,653
Average width of vein at lowest level, north of shaft	15 feet.
Average width of vein at lowest level, south of shaft	9 foot
Average yield of quartz per ton	$20 03
Cost of mining and milling, per ton	$6 04
Profit per ton	$13 99
Monthly crushing capacity	1,800 tons
Monthly product	$36,000
Monthly expenses	$10,800
Monthly profit	$25,200
Profit per annum	$302,400

The net profits for the whole year of 1867 averaged $29,111 per month. The quantity of rock milled during this period averaged over 2,000 tons monthly, while the above estimate is based upon the crushing of only 1,800 tons monthly of north shaft rock, excluding the rich Badger rock, and must therefore be considered as a minimum estimate."

Since the above reports were made public, the Badger shaft has been carried to a further depth of about 180 feet, passing through very rich ore at the lowest level. Where the connection has been made with the lower level of the Eureka drift, they have drifted upwards of twelve feet south from the shaft, and also sunk the shaft some twelve feet, finding the same good class of ore in both directions.

Kentuck—declined from $295 to $273, rose to $298, and closed at $300. The receipts of bullion to date for the present month aggregate $67,952, being a slight excess over receipts same time in August.....Crown Point sold within a range of $41 50@46, then at $42 75, and closed at $45. The shaft is now 92 feet in depth below the 900 level. It is believed that the Rhode Island mill can be kept fully employed until they can raise up to the ore between the 800 and 900 levels and open out the stopes. Nothing new at latest dates as regards a more favorable condition of the mine.

Hale & Norcross—improved from $46 50 to $50 50, and at the close sold at $49. The cross-drifts east, both north and south, do not show any ore yet, and in the main drift west they have some streaks of quartz, and have cut through a small clay seam, but as yet have no ore. They are now running to connect the bottom of winze from the fifth level of the Savage mine with their north "raise." When this connection is made they will prospect thoroughly, in order to ascertain if the ore found on the fifth level of the Savage continues to that depth.

Chollar-Potosi—advanced from $138 to $153, declined to $143, and closed at $146 50. During the week ending September 18th, 849 tons of ore were extracted. The Blue Wing stope does not look as well as at last report. The body of ore mentioned last week as having been developed in the north end runs up to within ten feet of the surface. Nothing of importance from the new works.

Alpha—sold at $36@48, and closed at $45. On the 630 level, 35 feet from east clay, they are opening a fine looking seam of ore about fourteen inches wide. It is believed that it will not prove to be as base as the previously discovered body....Belcher will hold a special meeting on October 1st, to incorporate under the laws of this State....Exchequer annual meeting takes place on the 19th of October....Julia annual meeting, October 12th.

The Grand Excursion.—Mr. E. Hoppel Hall, who left here in February, 1867, overland for New York, arrived from China by the Great Republic on Saturday last, having completed his tour around the world. He has prepared the material for a "Guide Book Around the World," which is soon to be published in New York.

A Singular Fact.—A young man lived to be twenty years of age before discovering that he was near-sighted. A pair of Muller's spectacles, 205 Montgomery street, opened up to him at once a new world of beauty. *

The Mechanics' Institute Grand Carnival has been postponed till Tuesday next, September 29th.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

Name, Location, Amount, and Date of Assessment.	Day Delinquent.	Day of Sale.
Alameda Coal, Sept. 17, 50c	Oct. 27	Nov. 16
Amador Co., dividend, $5 per share	Payable Sept. 19	
Bunker Hill, Amador co., May 19, $10	Oct. 6	Oct. 26*
Bullion, Aug. 19, $40	Payable immediately	
Belcher, Storey co., Nev	Special Meeting Oct. 1	
Bacon, Storey co., Nev., div	Payable June 19	
Chimienea, Mexico, Sept. 7, $5	Oct. 9	Oct. 28*
Chalk Mt. S. G., Nevada co., Aug. 17, $1	Sept. 23	Oct. 12*
Crown Point, dividend, $7 50	Payable July 11	
Cherokee Flat, Butte Co., Sept. 2, $5	Oct. 5	Oct. 19
Diamond, Del Norte co., Feb. 4, $2	Oct. 7	Oct. 26*
Enterprise, Meadow Lake, Aug. 28, $1	Sept. 30	Oct. 17
Empire M. & M., Nev., dividend $6	Payable May 15	
Gold Hill Q M & M—dividend, $7 50	Payable July 13	
Golden Rule, Tuolumne co., div 50c ₱ sh	Payable Aug. 23*	
Hope Gravel, Nevada co, July 30, $1	Sept. 10	Oct. 5*
L.X.L., Alpine co., Aug. 20, $1.50	Sept. 19	Oct. 7*
Imperial, Storey co., Nev., div	Payable June 18	
Julia, Storey co., Aug. 24, $1.50	Sept. 28	Oct. 17
Kentuck, div., $30 per share	Payable Aug. 10	
Kearsarge, Inyo co, Sept. 18, $1	Oct. 22	Nov. 10*
Maxwell	Meeting Oct. 22	
Nevada County G. M. Co., Nevada co	Meeting Oct. 5*	
North Wood Preserving Co., Sept. 3, 50c	Oct. 5	Oct. 21*
North Star, dividend, $5	Payable Aug. 10	
Oxford Beta	Sale Oct. 12*	
Providence, Nevada co., Sept. 11, $2	Oct. 17	Nov. 5*
Pacific Unassessable, div	Payable June 18	
Pacific Coal, Sept. 19, $12.50	Oct. 29	Nov. 18
Rattlesnake, Yuba co., Aug. 7, $2	Sept. 10	Sept. 28*
Rising Star, Idaho, Sept. 11, $7.50	Oct. 24	Nov. 25
Segregated Belcher	Annual Meeting Oct. 5	
Silver Sprout, Inyo co., Aug. 4, $30	Sept. 4	Oct. 21*
Santiago, Silver City, dividend	Payable Sept. 10	
Savage, Virginia, Nev. dividend, $15	Payable July 10	
Sand Spring Salt, dividend $1	Payable June 5	
Tallulah	Annual Meeting Oct. 20	
Virginia & G. H. Water Co.	Dividend, payable May 15	

Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. Stock and Exchange Board.

Friday Evening, Sept. 25, 1868.

Miscellaneous Stocks.	Bid.	Asked.
United States Bonds, 5 20s	$ —	—
Legal Tender Notes	70	70½
California State Bonds, 7s, 1857	95	95½
San Francisco Bonds, 10s, 1851	par & Int.	
San Francisco City Bonds, 6s, 1855	—	—
San Francisco School Bonds, 10s, 1860	par & Int.	
San Francisco School Bonds, 10s, 1861	par & Int.	
San Francisco City and County Bonds, 6s, 1858	85	90
San Francisco City and Co. Sch'l B'ds, 7s, 1866	90	—
San Francisco City and Co. Bonds, 7s, 1863	91	91
San Francisco City and Co. Bonds, 7s, 1864	90	—
San Francisco City and Co Bonds, 7s, 1865	91	—
San Francisco City and Co. Judg. Bds. 7s, 1863	90	—
San Francisco City and Co. Judg Bds, 7s, 1864	90	—
Sacramento City Bonds	23	25
Sacramento County Bonds, 6s	70	73
Marysville Bonds, 10s	75	80
Stockton City Bonds	60	70
Yuba County Bonds, 8s	77	78
Santa Clara County Bonds, 7s	75	77
Butte County Bonds, 10s, 1860	70	75
San Mateo County Bonds, 7s	75	80
California Steam Navigation Co	66	69
Spring Valley Water Co	66	66¼
State Telegraph Co	25	29
Gas Companies.		
San Francisco Gas Co	77	78
Sacramento Gas Co	—	75
Railroads.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	72	75
Central Railroad	55	58
North Beach and Mission Railroad	69	70
Front Street, Mission and Ocean Railroad	11	12
Banking Institutions.		
California, Loan and Savings Society	—	—
Pacific Bank	97½	100
The Bank of California	152	153
Insurance Companies.		
Fireman's Fund Insurance Co	88	90
Pacific Insurance Co	122½	126
San Francisco Insurance Co	—	105
Merchants' Mutual Marine Insurance Co	500	525
California Insurance Co	1300	1400
Union Insurance Co	99	99
California Home Insurance Co	—	—
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	79	80
National Insurance Co	72	—
Builders' Insurance Co	—	—
Mining Stocks—Washoe District.		
Alpha	43	45
Baltimore American	—	—
Belcher	130	135
Bullion, G. H.	16	17
Crown Point	54	46
Confidence	20	50
Chollar-Potosi	140½	147
Daney	3½	6
Exchequer	12	14
Empire Mill and Mining Co	—	100
Gould & Curry	87	88
Gold Hill Quartz	—	—
Hale & Norcross	49¾	—
Imperial	99	101
Kentuck	298	300
Lady Bryan	12	15
Sphinx	16	18
Overman	79	80
Savage	93	94
Sierra Nevada	16	16¼
Yellow Jacket	1275	1290
Golden Rule, California	10	—

San Francisco Market Rates.

Wholesale Prices.

Friday, Sept. 25, 1868.

Flour, Extra, ₱ bbl	$6 75	@	$8 25
Do. Superfine	5 25	@	5 50
Corn Meal, ₱ 100 lbs	3 25	@	3 50
Wheat, ₱ 100 lbs	1 65	@	1 90
Oats, ₱ 100 lbs	2 00	@	2 35
Barley, ₱ 100 lbs	2 10	@	2 40
Beans, ₱ 100 lbs	5 00	@	5 00
Potatoes, ₱ 100 lbs	1 00	@	1 25
Hay, ₱ ton	10 00	@	16 00
Live Oak Wood, ₱ cord	9 00	@	10 00
Beef, extra, dressed, ₱ lb	8	@	10
Sheep, on foot	3 00	@	3 25
Hogs, on foot, ₱ lb	5	@	6
Hogs, dressed, ₱ lb	8	@	9
Groceries, etc.			
Sugar, crushed, ₱ lb	14⅞	@	15
Do. China	10	@	11½
Coffee, Costa Rica, ₱ lb	—	@	18
Do. Rio	16	@	17
Tea, Japan, ₱ lb	75	@	90
Do. Green	60	@	1 25
Hawaiian Rice, ₱ lb	—	@	8
China Rice, ₱ lb	6	@	6¾
Coal Oil, ₱ gallon	35	@	40
Candles, ₱ lb	15	@	17½
Ranch Butter, ₱ lb	40	@	50
Isthmus Butter, ₱ lb	30	@	37½
Cheese, California, ₱ lb	13	@	18
Eggs, ₱ dozen	60	@	62
Lard, ₱ lb	13	@	14
Ham and Bacon, ₱ lb	12	@	8
Shoulders, ₱ lb	6	@	8

Retail Prices.

Butter, California, fresh, ₱ lb	60	@	75
do. pickled, ₱ lb	30	@	40
do. Oregon, ₱ lb	15	@	25
do. New York, ₱ lb	35	@	40
Cheese, ₱ lb	20	@	25
Honey, ₱ lb	25	@	30
Eggs, ₱ dozen	—	@	75
Lard, ₱ lb	15	@	17
Hams and Bacon, ₱ lb	23	@	25
Cranberries, ₱ gallon	85	@	1 00
Potatoes, ₱ lb	2	@	3
Potatoes, Sweet, ₱ lb	3	@	5
Tomatoes, ₱ lb	3	@	5
Onions, ₱ lb	3	@	5
Apples, No. 1, ₱ lb	4	@	5
Pears, Table, ₱ lb	5	@	7
Plums, dried, ₱ lb	11	@	13
Peaches, dried, ₱ lb	—	@	—
Oranges, ₱ dozen	75	@	1 00
Lemons, ₱ dozen	1 00	@	1 50
Chickens, apiece	50	@	75
Turkeys, ₱ lb	20	@	25
Soap, Pale and C. O.	7	@	12
Soap, Castile, ₱ lb	15	@	16

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

Friday, Sept. 25, 1868.

Iron.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1¾c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2¾ ₱ lb.			
Scotch and English Pig Iron ₱ ton	$33 00	@	$34 00
White Pig ₱ ton	33 00	@	34 00
Refined Bar, bad assortment ₱ lb	— 03	@	— —
Refined Bar, good assortment, ₱ lb	— 04	@	— —
Boiler, No. 1 to 4	— 04¾	@	— —
Plate, No. 5 to 9	— —	@	— 04¾
Sheet, No. 10 to 13	— 04½	@	— 5
Sheet, No. 14 to 20	— 05	@	— 5¾
Sheet, No. 24 to 27	— 05	@	— 6¾
Copper.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb			
Sheathing, ₱ lb	— 28	@	— 26
Sheathing, Yellow	— —	@	— 22
Sheathing, Old Yellow	— 11	@	— —
Bolts	— 21	@	— 22
Composition Nails	— 21	@	— 22
Tin Plates.—Duty: 25 ₱ cent. ad valorem.			
Plates, Charcoal, IX, ₱ box	12 50	@	— —
Plates, I C Charcoal	10 50	@	11 00
Roofing Plates	10 00	@	10 50
Banca Tin, Slabs, ₱ lb	— —	@	— 30
Steel.—English Cast Steel, ₱ lb	— —	@	— 15
Quicksilver.—₱ lb	— 55	@	— 60
Lead.—Pig, ₱ lb	— 7½	@	— 8
Sheet	— 10	@	— —
Pipe	— 11	@	— —
Bar	— 9	@	— 9½
Zinc.—Sheets, ₱ lb	— —	@	— 21½
Borax.—California, ₱ lb	— 20	@	— 23

San Francisco Prices of Copper Ores.

San Francisco, Sept. 25, 1868.

We give the following as an approximate price at which copper ores can now be sold in this city. There is no sale for ores which assay less than 12 per cent. The late reduction in price is on account of the advance of freight:

	Per ton.			Per ton.
12 per cent. ore	$16 00	22 per cent. ore		$43 56
13 " "	18 62	23 " "		46 45
14 " "	20 20	24 " "		49 33
15 " "	23 35	25 " "		52 22
16 " "	26 26	26 " "		55 11
17 " "	29 12	27 " "		58 00
18 " "	29 91	28 " "		60 80
19 " "	34 00	29 " "		63 77
20 " "	37 78	30 " "		66 66
21 " "	40 67	31 " "		69 55

These prices, we believe, will be found substantially correct, and can be realized at this date.

Knit Goods.—The Pacific Woolen Mills commenced operations less than two years ago, with a capacity of turning out 100 dozen stockings and sixty-two dozen shirts and drawers daily. These goods are all of a superior quality, heavy, strong, remarkably well finished, and furnished to the trade lower than the same quality from the East. Lazard Frères, Battery street, are agents for their sale. *

Not at Home.—The whales of the Ochotsk Sea have gone to other localities this summer, according to the northwest whalers recently arriving here, who report dull times in hyperborean waters since the Russian bear has retired beyond the horizon. It is reported from the East that the fleet which resorts to Hudson Bay and adjacent waters has done better this season than usual.

Amusements.—"He that has no music in his soul is fit for treason, stratagems and spoils." Remember the grand instrumental concert at Woodward's Gardens every Sunday afternoon. * *

DEWEY & CO.
U.S. and Foreign
Patent Agents
San Francisco.
Mining & Scientific Press

Electrotype Cuts, Engravings, Etc.—Our Job Printing Office is abundantly supplied with elegant engravings, ornaments, and other embellishments to suit the various branches of industry in this line.

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County.

Markleeville *Miner*, Sept. 12th: The machinery for the Morning Star works is arriving to-day.

The Trustees of the Rippon Co. are highly pleased with the late strike in their mine, and intend to make arrangements for a more thorough working of it.

Chronicle, Sept. 12th: The face of the Rippon tuunel of this claim is solid quartz. The ledge has been penetrated ten ft. and steadily improves, and the rock is believed to he rich.

Amador County.

Jackson *Ledger*, Sept. 19th: Mr. R. Palmer, agent for the Anaconda mine, located at Pine Grove, is in town, making arrangements for eommencing work on it. He has been examining the hoisting works of the Butte Basin Mining Co. with a view of purchasing them.

We learn that John A. Fall, Esq., has taken possession of the old Amador mine, and will at once put machinery on it, and sink the shaft to a depth of 300 ft. This mine is located the first north of the Spring Hill, at Amador City, and is believed to be good.

Dispatch, Sept. 19th; The proprietors of the Casco minc are erecting a 20-stamp mill on their lead to he run by water power, which will be completed and in running order within 60 days.

The Seaton mill, near Drytown, was totally destroyed by fire last Saturday.

Sept. 12th: A prolonged "whistle" from the engine of the new Kennedy quartz mill, warned our citizens of the readiness of that institution to commence crushing rock.

Inyo County.

The Cerro Gordo correspondent of the Aurora *Union* of Sept. 12th, says: Mr. Desormaux and Baudry's furnace is working finely, we may venture to say that it is a perfect success. They have extracted bars of lead containing a larger percentage of silver, than was ever extracted from any veins of argentiferous galena in the United States or Spanish America. Competent assayers estimate the ton of lead hars at $780 in silver, $35 in gold, and the value of lead at the ruling market price at $120 per ton. Deduct 48 pounds for the silver and gold eontained in the ton, and you will have 1,952 pounds of lead, worth six cents; $117.12 per ton, thus showing that one ton of lead bars from Cerro Gordo is worth: silver $780, gold $35, lead $117.12—total $932.12. The furnace has smelted in 30 hours 104 bars, weighing four tous and 300 pounds, or a total value of $3,864.12 All the mines upon which work has been done to the depth of 15 ft have proven thus far good, and beyond everybody's expectation. Prominent among the best mines in the district are the St. Ignatius, St. Lucas, and Belmont. The ore from the first is sold at the dump for $125; the second $114; the third from $120 to $200 per ton.

Although everything looks lovely, I would not advise miners or men that are making a good living to eome here, for wages are only $3.50 per day, and hard to get work, and provisions at enormous prices.

Nevada County.

Transcript, Sept. 16th: The Branch Mint ledge is located on the southerly slope of the same ridge with the Banner and Pittsburg mines. The lead is two feet wide and can be worked 275 ft. below the surface, and thc tunnel may be run for the whole distauce along the ledge.

John McNamar & Co. have located Grant and Union ravines, Bridgeport township, for mining and ditch purposes. Their claims are located on the east side of the main Yuba, below the junction of the North and Middle Forks, and extending along the ravines half a mile.

Sept. 22d: The Star Co. at North Sau Juan, eleaned up $10,000 after the last ruu. This is the only company at work on San Juan Hill.

The Amerieau Co. of Sebastopol, Bridgeport township, have purchased the Gold Run claims.

Gazette, Sept. 17th: A gentleman who visited Quaker Hill a day or two ago, informs us that Geo. Jaeobs is now putting up flumes and other fixtnres for working the Railroad diggings. The work done last year proved the claims to be rich, and the intention is to commenee hydraulicing as soon as water can be obtained. The eañon below the Railroad claims is held by Bullard and Furt, who eleaned it up recently and obtained therefrom, over all expenses, $584. The cañon is cleaned once a year, after the work is suspended in claims above, and the owners are at little other expense than cleauing up.

Sept. 19th: The Superintendent of the Sneath & Clay mine has published a request for proposals to sink the main incline on this mine 100 ft. below its present depth, also to run several levels and repair the drain tunuel.

Sept. 22d: Wm. M. Eddy started up his 15-stamp cement mill at French Corral, yesterday morning.

The large water wheel of the old Forest Springs quartz mill broke down on last Saturday and work was suspended.

Grass Valley *National*, Sept. 15th: The Hope Gravel Co. on Alta Hill, made their first shipment of gold yesterday. Supt. Locke says that he is taking out gravel that is very rich.

Sept. 16th: The Gold Hill mill is kept constantly employed. Some excelleut rock from the Shanghai, on Massachusetts Hill, is now being erushed. The Shanghai rock has never failed to yield profitable returns.

At the Grass Valley Fouudry an immense 5-stamp battery, weighing nearly 5,000 ℔s. has just been turned out for the Empire Co., while work for the Rising Sun, North Star and other companies is also being done. At the Mill Street Fonndry a bed plate weighing 6,000 ℔s. for the North Star Co. has just been completed; also a 16-inch plunger pump, weighing 20,000 ℔s., besides 500 ft. of 16-ineh pipe.

A gentleman of great experience in quartz mining, writing from Silver City, to his family in this place, gives a very glowing account of the richness of the ledges in that locality. He says he witnessed a clean up made in one of the 10-stamp mills, after a run of six days, and the enormous quantity of 1,200 pounds of amalgam was realized.

The Truckee *Tribune*, formerly the Dutch Flat *Enquirer* of Placer county, now published at Truckee in this county, says: The claim of Kinder & White, situated near Lowel Hill, in this county, put off a blast of 125 kegs of powder, last week, which did good work in the way of loosening the ground in its vicinity.

Excelsior.—Truckee *Tribune*, Sept. 19th: The Mohawk & Montreal Co. have been running their mill on an extensive body of ore lately discovered in a new drift, and enough has been cleaned up to warrant the belief that the yield of the erushing will be nearly $15,000. Enough ore equally as rich as that reduced in the present instance is said to be in sight to keep the mill running for months to eome. The Empire Co. erushed a number of tons of rock a short time since that yielded a fraction over $21 per ton in free gold, and the company are now engaged in roasting their sulphurets preparatory to working them in paus. The Enterprise Co. worked some of their third grade ore and it returned nearly $22 per ton. The Green Emigrant Co. have gotten out 100 tons of ore which they will have worked at the California mill as soon as they can get it hauled.

Sierra County.

Downieville *Messenger*, Sept. 19th: The company working the Alaska mine is meeting with unbounded suecess. The excellent character of the rock is shown by the result of a short run on quartz taken from the drift, upwards of $6,000 being realized by simple battery amalgamntion, with five stamps. Yesterday the Alaska Co. opened their battery after a run of 96 hours, and took out over $3,000.

Siskiyou County.

Yreka *Union*, Sept, 19th: Mr. Fabricius Jones, of Little Humbug, showed us a slug, one day this week, taken from his elaim, which weighed about four ozs. It was a beautiful flat piece, about two inches long and 1½ inches wide.

Tulare County.

Visalia *Delta*, Sept. 16th: The White River Mining Co's mill is now run day and night with good results, the rock paying $100 per ton. Maltby & Biggs have a fine ledge in their 100-ft. level on the Eclipse miue, varying in width from 18 inches to two feet, and will pay from $100 to $300. I saw rock from this mine which yielded as high as $16 to the pound. The Philadelphia Co. are at a stand still, as usual, nevertheless they have a fine mill and good mines.

Yuba County.

Marysville *Appeal*, Sept. 16th: In their level 10, incline No. 1 the rich pay chimney in the Pennsylvania mine at Brown's Valley cannot be reached short of a week or two. For incline No. 2, after a few weeks careful prospecting the eompany flatter themselves of having finally found out how to reaeh again their rich soapstone ledge; from the bottom of this shaft, 380 ft. deep, they are now running a new level in a northerly direction, hoping to reach this rich chimney in less than 30 ft. from the incline. The Rattlesnake is hoisting rich quartz from their lowest level, and their ledge is already over two feet in thickness; they intend starting their stamps again next week. The Jefferson is still making a little over expenses. It is rumored that their ledge is greatly improving in their lowest northern level as well as at the bottom of their shaft. Our millmen complain much about the great scarcity of good hands accustomed to blasting underground; none however but those of steady good habits need apply.

ARIZONA.

Prescott *Miner*, Sept. 5th: Mr. Borger was to have left San Francisco, for Prescott, on the steamer of the 22d of last month. As soon as he arrives, work will commence on the Sterling. He has shipped a supply of chemicals, and other necessary articles for working the ore by chlorination.

We had a call from Mr. Solomon Shoupe, of the Excelsior Hydraulic Mining Co., Lower Lynx Creek, Sunday last. He informed us that the claim paid first-rate, the previous week, three men having taken out nearly $300.

Work is going on in Walker's, Big Bug, and Hassayampa mining districts.

At Wickenburg, the mills are turning out plenty of gold, and preparations were being made for the erection of a new 20-stamp mill. The new pans recently set up in the Vulture Mining Co's 20-stamp mill, were working sulphurets with good satisfaction. The Vulture was yielding plenty of first-class ore.

In Yuma, Mohave, and Pima counties, the miners are busy at work, and a prosperous season is anticipated.

ALASKA.

The Portland *Oregonian* of Sept. 12th, gives us the following from our Arctic possessious: At Wrangle, the soldiers have discovered a mine which is thought to be silver. Specimens of the rock have been sent below for assay....At Sitka, coal of about ordinary quality has been discovered.... Mr. Lord thinks that there are undoubtedly good gold mines in the Stickeen river country. No prospecting to amount to anything has ever been done.

COLORADO.

Georgetown *Miner*, Sept. 3d: Huepoden, Wolters & Co. have shipped since our last issue, 2,003 ozs. of silver bullion, coin value, $2,138.14. Their water wheel broke down on Tuesday night, and will require three or four days' time to repair it.

A. M. Cassidy and Dr. Kane, of Pittsburg, Pa., have leased that portion of the Henry Ward Beecher lode owned by the Bohemian Mining Co., and their furnace, for a term of years. Work has been eommenced on the mine, and the furnacc is to be rebuilt on a larger scale. They will reduce their ore to lead riches, which will be shipped east for desilverizing.

Denver *News*, Sept. 9th: We recently saw a specimen of ore that was sent to the mint for assay, which upon being struck with a hammer to break it, revealed several very neatly drilled holes that were hiddeu before. They were about one-eighth of an inch in diameter, and may have been worm holes, but Dr. Munson concluded they might have contained the gold he was expected to certify to. Fearing this was lost, he did not make the assay.

The editor writing from Breckenridge, Summit Co., says: In Corkscrew Gulch two eompanies are at work. Pierce & Hopkins are working three men, and taking out fair pay. Their flume is 350 feet long, and when through the rim rock, now in the way, they expect to take out not less than half an ounce per day to the man. J. Hilderbrand is working two men, and is taking out about $5 per day to the man. For the balance of the season he expects $8 a day to the man.

On the Blue, Thomas Klak is working alone, and is taking out from $6 to $7 per day.

Two companies are working in Negro Gulch. Geo. Lupton has two flumes with a eombined length of 300 ft., and two hydraulics, and is now working seven men. He is taking out half an ounce per day to the man. Morris & Coatney, in the same guleh, are working 14 men, and have a flume 500 feet long. Their claim is paying about $11 per day to the man.

Soda Gulch is being opened by Pollock, Marksbury & Wilkie, who are employing four men. They have one hydraulic, and a flume of 300 ft.

In American Gulch, Carter & Paige are working four men, and have one hydraulic, and a flume of 400 ft. Their elaims are among the best in the county, and are paying one ounce per day to the man. In the same gulch Hitchcock & Co. are taking out $10 per day to the man.

Humbug Gulch is being worked by Mr. Overson, who is taking out from two to two and a half ounces per week.

In Georgia Gulch, Robt. Boylan is working four men, and is taking $16 per day to the man. Robinson & Rohley are working three men. Their first and only clean up this season averaged them $8 per day to the man.

Galena Gulch is being worked by the Galena Gulch Mining Co. The mine is yielding about three-fourths of an ounce per day to the man.

A company employing six men are opening Salt Lick Gulch, whieh has not begun to pay. They are also working a small tributary gulch whieh is paying from $3 to $5 per day to the man.

Stillson's Patch is still being worked and is yielding largely. McFadden & Madden are taking out from $12 to $15 per day to the man. One clean up was as follows: Thirty days' work gave 20 ozs., and auother of ten day's work gave seven ozs. Their claim has yielded this season something over $4,000. Mower & Co. are working four men, and taking out an average of $10 per day to the man. John Sisler is opening a claim with one hydraulic and a flume of 250 feet.

IDAHO.

Owyhee *Avalanche*, Sept. 12th: We challenge, not only the Territory and Pacific Coast, but also the entire mining world to produce a superior or even an equal, to a clean up made this week at the Lincoln mill, from Ida Elmore ore. Bring forward your figures; we claim the palm for Owyhee. McDonald & Co. assayed the bullion and molded it into bricks, the total weight of which was 8,351¼ ounces, valued at $78,187. One of the bricks weighed 1,965¼ ounces, worth $22,177.32, and without fear of impeachment we say it is the most valuable single brick ever produced by a quartz mine. Taking for granted that the aforementioned can't be beat, we'll just mention another that we saw in the lot, weighing 1,825 ounces, and valued at $20,671.41. And if the latter is too large, in the same lot we fiud a third of 1,642½ ounces, valued at $18,389.67.

This week a large and rich quartz vein was discovered in the gulch south of the Pauper mine. Haight, Gheer and Cogswell are the finders. We visited the discovery on Wednesday, and found the quartz to be fully five feet in width, with regular and well-defined casings. A considerable portion of the quartz is decomposed and contains large quantities of both gold and silver. We were shown about a dollar in gold and a fine showing of silver, obtained from one pan of the decomposed quartz.

River bed mining at Deadwood is a failure, the gold product being far below expectations. Hill, bar and gulch claims still hold out and will be good for many years.

MONTANA.

Helena *Post*, Sept. 11th: Day before yesterday, Messrs. F. Bohm & Co., assayed 1,200 ounces of gold. worth $23,000 in gold coin.

From four pounds of rock from the Park lode, Jim Whitlatch, in about 15 minutes yesterday, turned out $65, in a mortar and pestle hand stamp mill.

There last night arrived at the First National Bank, 374 ℔s. of silver bullion from Phillipsburg. It was extracted from the ores of the Hope lode by the mill of the St. Louis and Montana Mining Co.

On Saturday afternoon at 4 o'clock, Bohm & Co. commenced smelting a lot of dust, and at 8 o'clock of the same evening, had over 1,100 ozs. of gold, worth $20,840 in coin, manufactured into bricks.

Day before yesterday, at the First National Bank Assay office, Prof. Steitz assayed 5,607 ozs. of gold and silver hullion, the coin value of which was $31,698.74. Included in this lot was one brick of 700 ozs., worth $13.143.79.

Wm. Nowlan arrived from Cable on Saturday, bringing with him what at first seemed to be a large loaf of Boston brown bread, well done and just the thing to eat with baked beans. A eloser inspection showed it to be a large mass of splendid gold retort, weighing over 600 ozs., worth over $11,000, and the result of two weeks' run upon the Cahle lode in the Wm. Nowlan mill.

The new diseovery at Cœur d'Alene which eaused the reeent exeitement and stampede among our miners, are pronounced by persons who have thoroughly prospected them, one of the greatest "hilks" of the season, not even a color heing found to justify the report.

Capt. Maltby, at Sterling, is now running Prof. Eaton's mill on ore from the Red Bluff and Galena lodes, with satisfactory results. On the 25th ult, the 10-stamp water mill of Hall and Spaulding, on Meadow Creek,

started up, and is now running with much better results than its proprietors anticipated.

In Humbug Gulch, near Highland, three arastras are in operation. The lower one is worked by Nevins Bros. & Co., on the Nevins' lead, the second and third by Flowers, Stephenson & Co., on the Only Chance lead. The second arastra runs night and day, and is cleaning up about $1,300 per week, the quartz crushed averaging $75 per ton. All the tailings are saved and will be run through the mill when it is completed. At the third, or upper arastra, the weekly clean up ranges from 40 to 90 ozs. The Only Chance lode, owned by Messrs. Flowers, Stephenson & Co., consists of decomposed quartz, mixed with clay and sand, and is from six to ten feet in width. A tunnel 350 ft. in length has been run upon it, and the miners are now following the lead up towards the surface. The Nevins lode has a shaft on it between 100 and 125 ft. in depth. Its quartz is of a rusty character and much harder than that of the Only Chance mine.

Thomas, Head & McGregor cleaned up from the claim in Confederate Gulch last week the sum of $12,000. Their expenses for the same time were only $2,000. On Wednesday last parties engaged in repairing the old drain ditch, which had caved in, tapped the main body of water which had "backed up," so that it was lowered five feet in fifteen minutes. All the claims just above Diamond are now in a condition to be worked.

In Cooley's dry gulch, De Lorimer & Co. are working a hydraulic claim night and day, and employ 20 men. They obtain an abundance of water from Mammoth Gulch. Their claim is one of the richest in Highland, paying from $15 to $20 per day to the man. Hurlburt & Co's claim adjoining that of De Lorimer & Co., is being worked by means of drifting, and pays, on an average, $25 a day to the hand. In Highland Gulch, O. A. Langworthy's bar claim pays on an average, $15 per day to the hand; Dougherty & Trainer's pays from $10 to $12 per day to the hand. Mansfield's Gulch claim pays $14 per day to the hand, and the other claims are doing nearly as well.

Great activity prevails at present at Unionville. The daily yield of the Whitlatch & Sensenderfer, Hodge, Ricker & Turnley mills is not less than $300.

The Whitlatch Park Co. is vigorously prosecuting work upon discovery and No. 3 west on the Park lode, and Clark & Hale are mining energetically on No. 2 west on the same ledge, and both parties are obtaining some of the best rock ever seen in the Territory. Mr. Whitlatch is striking it rich on No. 2 west on the Owyhee. Maj. Addis' mill is to start up in a few days.

The Virginia *Democrat* says that the Green Campbell and Everett mill is progressing finely at Silver Star, and will be in running order by the 1st of October.

NEVADA.

Humboldt.

Winnemucca *Argent*, Sept. 17th: J. M. White brought down from the Golconda mine, 1,148 ozs. of bullion on last Saturday, which was shipped below by Wells, Fargo & Co. The mill has capacity enough to turn out a weekly average of double that amount, but there is too little water, and that is diminishing.

Home Ticket specimens were laid on our table this week by Wm. Hurst. This claim is considered the equal of the Golconda—of which it is probably a continuation. The specimens before us are about 75 per cent. mineral, and ore of the same character is abundant.

The rock in the Union Series tunnel has been very hard of late, but a softer body has been reached, and the work is advancing faster. Considerable water is coming in, which may be from the vein, which ought to be reached at no great distance farther.

Work will be resumed shortly on the mine and mill of the Sheba Co.

Unionville *Register*, Sept. 19th: The smelting works at Oreana are now doing most excellent work, and in the course of a few days more, furnaces that are now being re-lined will be started up.

Fall & Co. shipped this week, per Wells, Fargo & Co's express, 2,000 ozs. of fine bullion.

Reese River.

Austin *Reveille*, Sept. 12th: Speaking of the mines at White Pine, this paper says: Several of the claims are as productive as gold placers. Two men who had been in the district for a couple of weeks without discovering anything, were on the point of leaving it when they were offered a claim to work on shares—the owner to receive one-fourth of the net proceeds of the ore extracted from it. Without much hope of success—for the claim was undeveloped—the men went to work, but for several days they found only occasional pieces of chloride ore in the limestone debris. At last they struck a streak of rich ore a few feet below the surface, which they extracted and carefully assorted. Seven tons of this were brought into this city to the Manhattan mill for reduction, the assays of the pulp of which yielded at the rate of $2,735.89 per ton. Besides this lot they have a small quantity of extra fine ore, which they have reserved for smelting.

Sept. 16th: A very rich discovery has been made on Lander Hill, in the neighborhood of the Isabella mine. The ore is said to be sulphuret, in which the beautiful ruby is abundant, and a considerable number of tons which have been produced, are estimated to yield at the high rate of $500 per ton.

The first lot of bullion which was produced at the Old Dominion mill, at Hot Creek, since it was rebuilt, arrived in town yesterday afternoon, and amounted to some 2,000 ounces.

Sept. 17th: Capitalists in Indiana have telegraphed to the former Supt. of the Centenary Co. of Newark, to purchase certain mines in White Pine district, and to make preparations for building a 20-stamp mill in the Spring.

Sept. 18th: One wagon load of machinery for the mill which is to be erected by Jeremiah Miller, in the district of White Pine, passed through this city this afternoon.

Virginia *Enterprise*, Sept. 11th: Some of the mines of White Pine are yielding ores of almost fabulous richness. Parties from that section say it is by no means uncommon to see large lumps of ore that are so near pure silver, that by placing a half dollar on them and striking it a blow with a hammer, a perfect impression of the coin is left in the metal. These lumps the miners find no difficulty of disposing of in the crude state for coin. A gentleman from Austin informs us that he saw one lump of ore of the kind mentioned, weighing 40 or 50 pounds, sold by a miner, at the banking house of Paxton & Thornburg, for $300. These rich ores (horn silver) are often found in the very top of the lead and many times projecting a foot or two above the soil. A gentlemen who spent some weeks in the district, gives us the following account of its geological characteristics and the facilities for mining. The hill in which these rich ores are found is about three miles long by a mile in width, and is upon the surface of a limestone formation. This limestone is a complete mass of fossil shells, and the deposit is some 400 feet in depth. It rests upon slate, as is seen in places where deep ravines have cut through it. The country rock in the regions surrounding this mountain is principally granite, and the leads found in it contain such a large per cent. of base metals that they are not of much value. Nearly every lead yet found in the limestone range has contained ore of the kind we have mentioned above. Some of the principal leads were at first supposed to run east and west, those who found them being led to that conclusion from the position of the masses of ore found upon and near the surface; but they have now attained a sufficient depth on one or two of the leading mines to ascertain that they run north and south, or nearly so—the masses of ore that appeared to lie in an east or west direction like the croppings of a lead, proving to be but the overflow from the veins, the regular walls being found running north and south. Often the leads are capped over by limestone, and the prospector has only upon the surface a streak of spar to guide him in his search for the coveted mineral deposit. Our informant says that in one place he saw a company of miners blasting away the limestone and following down a streak of spar but two or three inches in width. They had found rich float ore in the ravine below, and were confident that it had been spewed up from a vein at the point where the seam of spar appeared, the rock having formed over the lead. They were further encouraged in this belief by the finding of good prospects in silver in the spar and adjoining limestone. A day or two after he visited the spot and found that they had reached their lead, and a blast which they had just exploded in it had thrown out one mass of ore of about 400 pounds weight, which was estimated to contain $1,000 in silver.

Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Virginia *Enterprise*, Sept. 16th: The lower level of the Yellow Jacket mine continues to yield rich ores.

Sept. 19th: Wells, Fargo & Co. and Pacific Union Express, shipped from this city and Gold Hill during the past week, 8,073 pounds of assayed bullion, worth $24,887.20.

The Pacific Mill, Lower Gold Hill, which was stopped for repairs, is again running.

Trench's mill, Silver City, will resume operations to-day. The mill has lately been undergoing repairs to its machinery.

Sept. 20th: The Empire and Bacon Cos. are engaged in setting up a blower at the old Imperial hoisting works, for the purpose of working from the 500-foot levels of their mines.

The Imperial Co. have a large number of men employed at present, and are raising a great amount of paying ore, with the intention of getting a supply above ground for winter use.

The Alpha Mining Co., Gold Hill, are at present taking out some excellent ore and have a large body of the same in their mine, between the 200 and 300-foot levels.

OREGON.

Portland *Oregonian*, Sept. 10th: A lot of quartz rock from the Bohemia mines has been shipped from the Umpqua river to San Francisco, to be subjected to test.

The Eugene City paper says: A miner working a claim about 30 miles from Baker City, a few days ago, picked up a nugget of gold worth $1,500.

J. B. Underwood has shown us a gold brick from Bohemia quartz which he had assayed in Portland a few days ago. It weighs $15.25, and is from 400 lbs. of rock, making a yield of $79.25 to the ton. This rock was of an average quality and no gold was visible in it.

The ledges now being worked in the Bohemia mining district are the Excelsior, Grey Eagle, Seymour, and the City. The ore is a sulphuret of silver, black or grey in color, mixed with sulphur, iron pyrites, copper, bismuth, arsenic, antimony, zinc and gold. The proportion of gold is the greatest near the surface, and the proportion of silver increases as explorations descend.

[Written for the Mining and Scientific Press.]

Mining in El Dorado County.

BY OUR TRAVELING CORRESPONDENT.

[Continued from page 178.]

NEAR DIAMOND SPRINGS,

Mr. Ferdinand Gruder has struck a very rich vein of beautiful looking rock, which he is just making commencement upon, and is erecting a 5-stamp mill (water power) and expects to be crushing in a short time. Below this, on the "Mother Lode," towards Amador, some three miles from Mud Springs, is located the Church Union mine, (incorporated) J. B. Church, Superintendent. This mine is composed of two veins, the Union and Cosumnes,—the former, from four to six feet, and the latter from four to twelve feet in width. The lowest levels are on the Cosumnes, 160 feet, and on the Union, 264 feet, and are worked by shaft and drift and steam hoisting works. The rock looks well, some of it showing free gold in abundance. They have a very good 20 stamp mill, constructed by the Vulcan Foundry, and employ, altogether, sixty men; only eight hands, however, are required to supply the mill with rock, the balance are used for developing the mine. Mr. Church is a civil engineer by profession, and is fast learning to become a practical miner. He seems to show the right disposition, and it is to be hoped that he will succeed.

About three miles southwest of the Church-Union, is the Sugar Loaf or Hermitage, owned by a Boston Company, C. S. Maguire, Superintendent. This company will get to crushing again in September, and will then be able to keep the mill (20 stamps) constantly supplied with rock. They are down 200 feet on the vein, which ranges from three to fourteen feet in width. The rock now being taken out looks passably fair for low grade ore, and I should judge that with prudent management, the mine could be made to pay well. Mr. M. seems to be a "rustler," and fully determined to make a winning.

AT NASHVILLE,

on the north fork of the Cosumnes, is the Havilah mine, owned by H. D. Bacon & Co., of San Francisco, Mr. O. Hyde, Superintendent. This has the appearance of being a first class mine. All that is wanting, apparently, is to sink deeper in order to establish its permanency. At present, they are down but 200 feet, where it shows a vein of ribbon-rock from six to eight feet thick. The ore presents a fine appearance, containing considerable sulphurets, and will most unquestionably be made to pay. They have an excellent 40-stamp mill, driven by an engine of 65-horse-power; also a fine furnace for roasting sulphurets for concentration, of which they are erecting two of Paine & Stephen's huddles, each to be eighteen feet in diameter. At present they are not running the mill, but are putting in new iron mortars, invented by the Superintendent, Mr. Hyde; also a crusher; they think they will get to running during September. On the mine they have steam hoisting works, from which the ore is conveyed by cars to the crusher, which is placed immediately over the center of the feeding room. They already have a large quantity of ore taken out, and when the mill starts, it will have no occasion to stop. Mr. B. talks like one who has had an extended experience in quartz, and evidently knows what he is about. His Superintendent, Mr. Hyde, is none of your kid-glove men, but a real worker, a good mechanic, and one who every day is on hand and personally attends to every department. With such men as these at the helm, failure is impossible.

Further down on the same belt, about one and one-half miles below the Havilah, is the Bay State, owned by C. S. Maguire, of the Hermitage, and his company in Boston. This mine has but recently made a start, and are down eighty feet, where they find the ledge well cased, thirteen feet in width, and presenting a quality of ore unsurpassed in appearance anywhere in the county. They are now making their first run at the Enterprise mill, one mile distant, from which they are expecting a very fine yield. Mr. Humphrey Reese has the Superintendency of this mine.

ABOUT PLACERVILLE

there is an extensive range of old channel diggings—deep gravel—which would pay enormously, if an abundance of water could be had at fair rates—say ten cents per inch. As it is, there is but one ditch in the county or district, and that not furnishing over one-tenth the amount required, and selling at twenty-five cents per inch. This ditch company will not reduce their rates, will not enlarge their ditch, or sell to any one that will. The citizens and miners complain loudly that they are thus controlled by one or two individuals. They know they have a large extent of ground that would pay equal to any in the State, had they equal advantages of water. Some few claims are even now doing very well, particularly the Alderson claim. Report has it that some changes will be made soon in the water administration, when mining will again revive in and about Placerville.

At Pleasant Valley, the Monitor Gravel Company are prospecting an old creek channel for a pay streak, and it appears to be only a question of time with them, the indications being very certain.

Near this place is situated the celebrated

PICTURE ROCK QUARRY,

owned by Mr. Fleming, of same place. This is really a novelty in nature, displaying a marvellous beauty of landscape scenery that is wonderful to contemplate. By some, these effects or impressions have been termed photographic, but in the opinion of the writer, the different shades and forms are produced wholly and simply by infiltration—oxide of manganese being the substance. The whole formation, as far as uncovered, appears to be sedimentary, and during the formation of the different strata, it appeared to receive an alternate flow of manganese. Mr. Fleming has a very fine slab, three by four feet, which he will have on exhibition at the State Fair. This will be really worth seeing to the lovers of the beautiful.

[To be continued.]

STONE COAL IN IONE VALLEY.—Just now in the coal mine of James Morgan, in Ione Valley, presents a lively appearance. We learn that twenty tons per day are being taken out and shipped to the Oncida quartz mill, where it is being used very successfully. Two other mines are being opened near this one, and the prospect for an abundance of fuel for our mills is very encouraging. We also learn that Messrs. Coney & Bigelow intend trying this coal in their chloronation works at this place.—*Amador Ledger, Sept. 12th.*

AUSTRALIAN PEARLS.—The pearl fisheries recently discovered in Western Australia extend along the coast for 1,000 miles. It is stated that over sixty tons of pearl oysters were fished up in December last, and sold for $500 per ton in gold.

Mining and Scientific Press.

W. B. EWER,.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

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Our Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

Dr. L. G. Yates is our duly authorized traveling agent. July 6, 1867

Mr. A. B. Butler is a duly authorized traveling agent and correspondent for this paper. July 15, 1867.

Resident Agents.

CENTRAL CITY, C. T.—Messrs. Richards & Crane, of the City Book Store, Main street, will act as our agents.

GEORGETOWN, C. T.—John A. Lafferty, Postmaster, is our agent in this place.

DENVER CITY, C. T.—Messrs. Woolworth & Moffat, are our agents for this place.

CHEYENNE, D. T.—Mr. Robert Beers is our authorized agent for this place.

OMAHA, N. T.—Messrs. Barkalow & Brothers, are our agents for this place.

San Francisco:

Saturday Morning, Sept. 26, 1868.

Notices to Correspondents.

ARTIFICIAL ICE.—Amongst the numerous processes for the manufacture of artificial ice, that of Carré seems to be the best and most economical. The result is accomplished by means of an ammoniacal solution, and by the repeated distillation and condensation of ammoniacal gas, which is used over and over again. Two kinds of apparatus are made by Mignon & Rouart, No. 149 Rue Oberkampf, Paris: a small one for family use, and a larger one for industrial purposes. The smaller one freezes one kilogram of ice in 55 minutes, and costs 282 francs; another size freezes two kilograms in an hour and a half, and costs 406 francs. The industrial apparatus freezes 200 kilograms per hour, and costs 24,000 francs. George Simpson, of No. 315 Oxford street, London, sells a "piston freezing machine," the *glacier roulant* of Toselli, in which nitrate of ammonia and sulphate of soda are used, for from £4 to £11.10. In the Richardson process, hydrocarbon, or other volatile fluids which produce intense cold when volatilized, or distributed in the form of spray or vapor, are used. The principle is invariably the taking away of heat, by the vapors which are formed.

SELF-LEARNER.—What are termed the imponderable bodies, such as heat, electricity, etc., do not become lost, however they may become inappreciable to our senses. When a solid becomes liquid, it unites for a time with a quantity of heat which is perfectly definite; for illustration, a pound of ice in undergoing liquefaction, invariably requires a uniform quantity of heat to produce this effect; the water obtained will appear no warmer than the ice; and the heat, though for a time it ceases to affect the senses, is not lost, but is again given out when the water is again made to revert to ice. The heat so disappearing is termed latent, and sensible as evolved when the water is made to resume the solid form. So far as human understanding can reach, matter, whether ponderable or imponderable is indestructible, but either may assume the most protean forms and complex combinations.

VIOLINCELLO.—For the transmission of sound it is essentially necessary that the vibratory source from which it may emanate should be surrounded by an elastic medium. If a bell is suspended in the receiver of an air-pump, and struck, the sound so occasioned will be distinctly heard while the vessel is full of air; but after commencing to exhaust the receiver at each repetition of the blow, the sound will become fainter and fainter in the proportion of a vacuum being approached, and at last the sound will become so feeble as to be all but inaudible. Other media besides air will transmit sound. A bell, for instance, may be rung under water and will be heard by a person if similarly immersed, at a much greater distance than in the air.

DURING the past week, the Mechanics' Eight-Hour Exchange of this city, supplied 150 mechanics with employment.

The Oregon Iron Smelting Works.

It is gratifying to be able to report progress in so important an enterprise as the smelting of iron on the Pacific Coast. In our second July number we mentioned the receipt of some limonite ore from the Oswego iron mines, located on the Willamette River, nine miles above Portland, Oregon, together with some products from the smelting of the same, which were subsequently exhibited at the Mechanics' Institute Fair. Mr. H. C. Leonard, the Superintendent of the Oregon Iron Works, is at present in this city, and from him we have obtained additional information concerning the extent and character of the works at Oswego, which, we trust, will be found interesting to the readers of the PRESS.

Mr. Leonard, a year ago, visited the best works in the Eastern States, but especially those of Connecticut and New York, and procured designs of the most approved apparatus and machinery for the reduction of iron, which were immediately put into execution by practical experts in that business; and the result is that we have now in operation on this coast a first class smelting stack, on such a basis as to be in a fair way of repaying speedily the capital invested, besides promising to return very handsome profits to the company in the future.

The iron brought to this market around Cape Horn, is chiefly the Scotch Glengarnock pig, which is at present held in New York at $43.50 to $44 a ton, currency. The Oregon iron is very much superior to this, being a charcoal iron, whilst the Glengarnock, being smelted with coke, is only of moderate quality; and the Oregon iron can be furnished in San Francisco at a price as low as the Glengarnock, or for less, if competition should render it necessary. Charcoal iron of the quality produced at Oswego, is now selling in Portland at $44.80 coin (being the company's own price) and in New York at about $65 a ton in currency. In San Francisco, the price of iron is very fluctuating, on account of the varying quantities in the market at different times. Just now it is very low; it has been down to $32½ a ton in gold, and it occasionally goes up to $50. Any mercantile house that would attempt to buy up the iron at present in the market, might to-morrow raise the price to the latter figure. The economics of the case, however, appear to be such as to give the Oregon smelters a permanent advantage over shippers from the East of about $8 a ton.

The first effect of a local production of iron will be to put an end to so great a fluctuation of prices in iron. When any important work is to be begun requiring a quantity of iron, there will be no occasion to look for undue and unexpected expenditures chargeable to speculation, or to scarcity of iron in the market.

Owing to the necessity of underbidding imported iron, another effect will be the permanent cheapening of the average price of iron in the Pacific States.

So great is the demand at present for iron on this coast, not merely for railroad purposes, but also for ordinary engineering and manufacturing purposes, that the success of the Oswego works will probably cause two or three more stacks to be set in operation soon in other localities where iron ores have been found abundantly, but where the deposits have heretofore received no attention by reason of the adverseness of the proportions of cost, in the items of production and shipment.

In these particulars the Oregon Iron Works are very favorably situated. Shipping can come to the company's works and wharves, on the Willamette; and the mines are situated only two or three miles back, whence the cost of transportation amounts to only a dollar a ton by common road hauling. Extraction from the mine costs at most about $1.50 per ton; so that the total cost per ton delivered at the stack, is but $2.25 to $2.50. In New York and Connecticut the ores cost the smelters about $7.50 a ton, currency; it being found necessary generally to bring some of their ores from a great distance, as from Lake Superior, in order to obtain such a mixture as will be adapted to easy smelting—an operation rendered unnecessary by the favorable character of the Oswego ore.

Charcoal costs eight cents a bushel, being prepared in the vicinity of the works, in winter time. From 1,100 to 1,300 bushels of it are used a day, so that the price of it becomes an important item. In the east, charcoal costs from fifteen to twenty-five cents a bushel at the lowest estimate.

The company has been fortunate in procuring the services of a very competent practical iron-smelter and foundryman in the conduct of their earlier operations, where a few blunders would have sufficed to shipwreck any new and struggling enterprise: Mr. Horace Harris, who formerly run the Columbia furnace at Hudson, New York, and who has given sufficient evidence of his capacity in the quality of the iron which has been turned out thus far.

Geologically, the deposit of ore is in the nature of a bed or stratum, similar in position to the deposits of coal, and it is mined on the same principles, by parallel levels, and by side driftings. A body of ore has now been surrounded by levels which, it is estimated, will keep the furnace going for about two years and a half. It is chiefly brown hematite, containing over 80 per cent. of the oxide of iron, and yielding, on an average, as it is taken from the mine, about 50 per cent. of metal. The roofing of the deposit is a peculiar hard shaly substance, richly impregnated with oxide of iron. Timbering is accomplished very cheaply, the forests being in the neighborhood. Now that the rolling mill has become one of the established manufacturing industries of this city, the local production of pig iron seems to be entirely in consonance with the stage of general advancement to which we find we have attained. We see in these unimposing beginnings which are chronicled now, industries that will grow, and raise with them the men whose fortune grows slowly and surely at the same time, to the control of millions of capital, in less time than most of us may suspect.

The Oregon Iron Works have adapted their operations to the wants of the times, and have just turned out a score of stoves, which were cast from the furnace direct. Charcoal iron is not ordinarily used for that purpose, being too expensive, and of a better quality than is necessary; but the Oregon Company can afford to use even that, with the additional economy of requiring no re-smelting such as other foundry men have to undertake, in their competition with eastern iron. Other castings, of whatever character, for machinery, etc., can be made to order, from the furnace direct, in the same manner that stoves are cast.

In due time it is expected that rolling mills will be set in operation in the vicinity of the smelting works. A trip hammer is to be put in operation shortly, we are told, and the company will then be turning out the best quality of wrought iron.

An additional large shipment of Oregon pig is recently reported in the San Francisco market.

CONTRIBUTIONS TO OUR CABINET.—We have received a box of specimens from A. B. Butler, Mokelumne Hill, chiefly of pyrites, galena and gold; also a box from P. A. Haven, Downieville, containing many interesting lithological and mineralogical specimens, all of which will be noticed soon, with others previously received.

THE Bay View cars made their first through trip to Bay View Park, last Saturday evening, the obstructions at the Potrero cut having been entirely removed.

Agency of Hydrogen in Roasting—The Hagan Furnace.

The disintegration of water into its constituent elements of Hydrogen and Oxygen was one of the great discoveries which marked the establishment of chemistry as a science in the days of Lavoisier, when it began to be distinguished from the mysteries and empiricisms of alchemy, and ceased to be associated with stuffed crocodiles and the like mystical symbols. Paracelsus, the great humbug of antiquity, first separated hydrogen from water, without comprehending the nature of his discovery, giving it an empirical name; but it was more than a century later before any philosophic thinker hit upon the reality of water being itself a compound body, and it is to this day a most interesting experiment to see that very tangible fact proved by ocular demonstration.

Water is the result of a burning process—the burning of hydrogen with oxygen. Neither the geologists, nor the chemists, are yet wise enough to describe to us how the great fires of creation first came to pass, when the combination of the two loving affinities resulted in the flowing together of the waters of the ocean, the consequent fructification of our planet, and the vivification of all its dead atoms into an infinite world of joyous and teeming life.

To separate hydrogen from oxygen has been a most easy task in the laboratory. It is done by different methods of decomposing water, and the principle made use of is to present other objects for which oxygen entertains a greater affinity than it does for hydrogen; the oxygen then liberates the latter, at the same time that it joins the new comer. Heat alone will not decompose water, but in the condition of superheated steam it is more susceptible to outward influences. Water is decomposed, 1st, by the alkali metals at ordinary temperatures; 2d, by carbon, zinc, iron, tin, the metals of the earths, etc., at allow red heat; and 3d, in the presence of dilute acids by zinc, tin, iron and most of the metals of the earths; the last being the foundation of the usual laboratory process, whilst the second named is the principle made use of in the Hagan roasting furnace, which we are about to describe. But the simplest and most striking method of decomposing water is to cause the two poles of a galvanic battery to terminate in it, the water being first made a conductor by being slightly acidulated. The water will at once divide itself into its constituent gases—the oxygen will go to the positive, and the hydrogen to the negative pole, where they may be caught, respectively, in proper receptacles; but the hydrogen will occupy twice the space of the oxygen.

For metallurgical and industrial purposes the decomposition of water in order to burn its hydrogen—re-combining the same with oxygen—has not hitherto been done to any demonstrated practical advantage. It is to the chemical reagence of hydrogen, probably, that we must look for any available principle whereby such decomposition may be made a practical success. Two attempts have been made to apply the second principle above, to metallurgy, one by Rivot, the professor on metallurgy at the Paris *Ecole des Mines*, by the use of a reverberatory furnace where superheated steam is conducted into the flames from above, and necessarily with access of air into the furnace; the other by Dr. Wm. E. Hagan, of New York, who uses a shaft or cupola furnace, in which the superheated and decomposed steam rises from below, and the air is excluded after the wood fire has once been set in progress, by closing well the furnace doors.

Another practical utilization of the decomposition of water has been attempted for lighting purposes, in a patent French lamp, where steam is led over glowing coals, and the hydrogen so separated is caused to burn

in connection with other gases arising from the decomposition of the coal; resulting, it is said, in a brilliant light.

The Rivot process has been tried at Grass Valley, under the direction of two of Prof. Rivot's pupils, who have been back to Paris several times, and as often returning to Grass Valley, attempting repeatedly to carry out their master's theory practically; but without economical results so far as reported.

The Hagan roasting furnace was first tried in this State about three years ago, and was reported at first to be a success; but difficulties were soon encountered, and the mining public failed to be convinced of its superiority over other methods of roasting. A furnace was erected on the Point at Oakland, and another at Grass Valley, by the Pacific Ore Company; three others were erected at Mr. Bovee's mine in Calaveras County, at the Plymouth mine in Amador County, and at the Belden mine in Tuolumne County,—all of which were discontinued, though not because the desulphurization was a failure by that process, as is claimed; but experiments have never ceased for the attainment of the practical results believed to be within reach under Dr. Hagan's patent, and another furnace has recently been erected at the Enterprise mine, near Cisco, whence the Grass Valley furnace had previously in part derived its ores.

This furnace is now reported, on what appears to be pretty good authority, to be daily demonstrating that there is something, after all, in Dr. Hagan's process of roasting, which may prove of importance to the gold mining interests of this State, as a means of economizing in the item of metallurgical treatment, and increasing the number of paying mines by bringing productiveness down to a smaller assay.

We will briefly state the facts. The furnace has been modified in many details, but the principles and operations are precisely the same as heretofore described in the MINING AND SCIENTIFIC PRESS, in the circulars of the Pacific Ore Company, and also in several late publications on mining in the Pacific States, where it is spoken of as identical with the "Mason process." The furnace of the Enterprise mine has a circular ore chamber four feet in diameter and eighteen feet high, with a fire chamber at the bottom four feet deep. A pipe from a steam boiler passes in beuds over the fire, so as to superheat the steam, which then passes down to the bottom of the fire, under which it escapes from the perforated pipe so as to pass through the flames. The ore chamber is filled with ore broken to battery size; the fire chamber receives a supply of wood, which is kindled; the steam is turned on, the door of the furnace is closed as tight as possible, so as to keep the air out from the fire, and in a few minutes the blue flames of the hydrogen rise up through the ore nearly to the top of the furnace. The sulphur, antimony and arsenic in the quartz are driven off in combination with the hydrogen and oxygen, and at the end of three days the gold is perfectly free and ready to unite with the quicksilver by the common modes of amalgamation.

Dr. William B. May, the Secretary of the company, states that by this process the ore yields from four to six times the return which has hitherto been obtained by the most skillful manipulation; twenty tons of ore having produced, by ordinary amalgamation five ounces of hullion, worth $99.75, at a loss of 160 pounds, or $104 worth of quicksilver, while the same number of tons, after going through the Hagan furnace, produced 16 48-100 ounces of bullion, worth $339, at a loss of only four pounds of quicksilver. The cost of roasting is from $1 to $1.50 a ton. Additional facts will be found in a communication from Dr. May, in another column. It was on a condition that the Enterprise ores should be worked successfully, that the furnace was taken off the hands of the builders, and paid for by the mining company.

In ordinary roasting the noxious ingredients of ores—sulphur, arsenic, antimony—are volatilized by heat, or carried away in a burning combination with the oxygen of the air, for which they have a greater affinity when heated than for the metals to which they are bound. The principal burning agent has always been oxygen; the sulphur was changed by a combination with oxygen, to sulphurous acid (SO^2) and the arsenic to arsenious acid ($AS\ O^3$). Antimony, zinc and silver, besides being more or less volatilized, are partly retained in the form of sulphates, arseniates and antimonates—double compounds with oxygen and the metals to be reduced—and also partly in their original simple form. The experienced roaster can not only distinguish these various results at a glance, but he can alter them, or avoid them altogether, in accordance with the desires of the millman, to whom the products are next turned over for treatment, and who knows best, or *ought* to know, in which form the physical and chemical characteristics agree best with his particular manipulation. The ore for ordinary roasting is in a pulverized condition, and it is roasted in a reverberatory furnace.

In the Hagan furnace we have already mentioned that the air is intended to be excluded, and that the ores are broken up only to the size of one's fist, or to "battery size." The process is different from that of the English kiln roasting furnaces, for there the air has access through the door and through vent holes, and burns with the mineralized sulphur.

Oxygen and hydrogen being obtained by the decomposition of water, in a fireplace separate from the ores in the body of the cupola, the oxygen immediately unites with the carbon of the burning coals or wood, while the liberated hydrogen passes from the fire and burns, according to published circulars, "in the presence of the oxygen of the air," which it would seem is admitted into the cupola by some other opening than the fireplace; or if such be not the case or but partially the chemical result, then the roasting is effected mainly by a combination of the hydrogen directly with the sulphur, etc., making sulphureted hydrogen (HS), a gas smelling like rotten eggs, which we understand is mentioned to be a fact by the workmen who are employed at the furnace. The hydrogen flame and the resulting gases being brought into contact with the ores, the sulphur, arsenic and antimony are thereby volatilized or caused to enter into new combinations; whilst the ore remains in an oxidized and crumbling condition, so that double the usual amount of crushing can be done of it, in a stamp mill. The gold is made free; the silver remains in a metallic condition or as sulphate of silver; part of the zinc probably remains as sulphate, and some of the antimony and arsenic as antimonates, and arseniates.

We have seen specimens of this roasting—large chunks, in which the roasting process appeared to have been pretty thoroughly accomplished; but it is impossible to speak with any degree of certainty as to the results, until we have a series of comparative assays for the sulphur and other mineralizing ingredients remaining, after undergoing this and the ordinary roasting processes. At the Enterprise mine, it may be well to state that the "sulphurets" consist chiefly of arsenical pyrites.

As to the closeness to which ores can be worked after being submitted to the Hagan treatment, the persons who hold the patent appear to be duly modest, and not at all desirous that any hullaballo should be raised; but they claim that the results shown speak loudly enough, and they invite anybody who is interested to go to the spot, to study the furnace at Cisco,—take their own notes, and make their own assays,—for which every facility will be afforded.

TECHNICAL EDUCATION.—At the instance of the Royal Commission on Technical Education, the ministers of Great Britain residing in foreign countries, have furnished reports upon the status of technical education abroad, the publication of which fills a volume of 550 pages. In Bavaria a good system is in force, much attention being paid to art; in Prussia technical education is brought to the greatest perfection, and is immediately under the care of the State. The general purport of the book is that technical education is of recent growth in most of the countries of Europe, and that much scope for development exists, but that several European countries must be considered in advance of England.

DEATH OF A MECHANICIAN.—Edwin A. Stevens, of Hoboken, the originator of the well known "Steven's Battery," which cost over $1,000,000, and was never accepted by the Government, died recently at Paris, bequeathing to his children a fortune of $18,000,000.

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WILLIAMS, ROOT & NEILSON,
MANUFACTURERS OF
CROSS' PATENT BOILER FEEDER,
STEAM ENGINES, BOILERS,
And all kinds of Mining Machinery.
Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.
Duobar's Patent Self-Adjusting Steam Piston
PACKING, for new and old Cylinders, manufactured to order.
Front Street, between N and O streets,
14v11 SACRAMENTO CITY

Oakland Point Foundry,
Near Oakland Point R. R. Station,
MANUFACTURES
House Fronts, Sash Weights,
Ranges, Light and Heavy Castings of all kinds.
Having this day dissolved partnership with G. A. Walker, the business will hereafter be conducted in the name of the undersigned.
☞All orders promptly attended to.
MARTIN T. MEAD.
July 16, 1863. 3v17-1m

GLOBE
Foundry and Machine Shop,
STOCKTON, CAL.
KEEP, BLAKE & CO.,
MANUFACTURERS OF
Quartz, Saw and Grist Mill Irons, Steam Engines, Horse Powers,
Mining and Irrigating Pumps, Car Wheels, Derrick Irons, House Fronts, Iron Fencing, Balcony Railings, etc., at San Francisco prices. Orders solicited and promptly executed.
13v13-1y



JAMES MACKEN,
COPPERSMITH,
226 Fremont st., bet. Howard & Folsom.
All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.
Repairing promptly and neatly attended to.
13v11

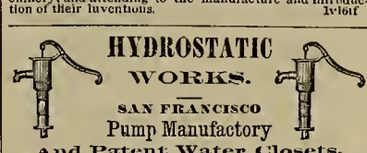
CITY IRON WORKS COMPANY.
CLERC & CO.,
IRON FOUNDERS,
Steam Engine Builders, and Makers of all kinds of Machinery,
6v16qr No. 28 Fremont street, San Francisco.

To Foundrymen and Blacksmiths.
LUMP LEHIGH AND CUMBERLAND COAL, IN ANY quantity, sacked and shipped to any part of the country, by JAS. R. DOYLE, Coal Dealer,
42 and 44 Pacific street, bet. Sansome and Montgomery,
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Miners' Foundry
—AND—
MACHINE WORKS
Nos. 245 to 255 First Street,
San Francisco.
HOWLAND, ANGELL & CO.,
PROPRIETORS,
Manufacturers of Machinery for
QUARTZ MILLS. FLOUR MILLS,
SAW MILLS, SUGAR MILLS,
POWDER MILLS, PAPER MILLS
Steam Engines of all Kinds.
Amalgamators of all Kinds.
MINING PUMPS, HOISTING WORKS,
OIL WELL TOOLS, ROCK BREAKERS,
—AND—
Machinery and Castings of all kinds, either of Iron or Brass.
Boilers and Sheet Iron Work in all its Branches,
Shoes and Dies of White Iron, manufactured for and imported by us expressly for this purpose, and will last 25 per cent. longer than any other made on this coast.
Russia Iron Screens, of any degree of fineness. We are the only manufacturers on this coast of the "Hicks Engine," the most compact, simple in construction, and durable, of any Engine in use.
W. H. HOWLAND, H. B. ANGELL,
13v14-qr **CYRUS PALMER.**

FULTON
Foundry and Iron Works.
HINCKLEY & CO.,
MANUFACTURERS OF
STEAM ENGINES,
Quartz, Flour and Saw Mills,
Buyers' Improved Steam Pump, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.
N. E. corner of Tehama and Fremont streets, above Howard street, San Francisco. 3-qy

McAFEE, SPIERS & CO.,
BOILER MAKERS
AND GENERAL MACHINISTS,
Howard st, between Fremont and Beale, San Francisco.
Fine or Tubular **Boilers,** with plain circular or spiral courses. Upright Flue or Tubular Boilers, Locomotive and and Marine Boilers, and Wrought Iron Tanks of every description.
Hydraulic Pipe supplied at reasonable rates. In ordering, give the quantity of water to be supplied, hight of the fall, and total length of pipe, so as to enable the firm to determine the diameter of the pipe and thickness of iron to be used.
Repairs.—Boilers, Smoke Stacks, Pipes, etc., put in repair with promptness.
To Boiler Makers and Machinists in the Interior.—The firm is prepared to furnish estimates of Boilers, supply new Heads, drilled and punched, and attend to the selection and forwarding of Iron for Boilers, Pipes and other purposes.
Plans, Drawings and Specifications.—The firm is prepared to make out Plans and Specifications, receive estimates, and superintend the Erection of any Machinery that may be entrusted to their care
To Inventors.—The firm is prepared to assist in developing the plans of those who have the ideas but not the practical experience necessary to put the same in form, by making Drawings of their inventions, giving them the benefit of their practical knowledge in the construction of Machinery, and attending to the manufacture and introduction of their inventions. 1v16tf

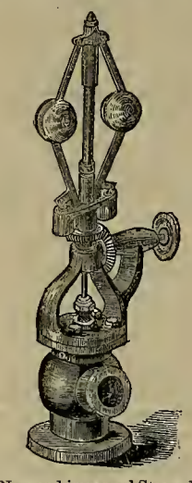


HYDROSTATIC WORKS.
SAN FRANCISCO
Pump Manufactory
And Patent Water Closets.

M. D. LASSWELL,
No. 747 Mission Street, bet. Third and Fourth.
House Plumbing and Gas Fitting in all of its modes. Lead, Iron and Copper Piping fitted for water, steam and gas. Ship Plumbing, and Ship Pumps made and repaired Hose of all sizes, Couplings and Nozzles, Roses and Rose Stands, and all kinds of Brass Cocks. Force, Lift and Suction Pumps of all sizes made and set to order.
I am now prepared to make all kinds of Pumps for miners and for irrigating in a large way. I am making four sizes of single-acting Brass Pumps, similar to the Haden & Sanders Brass Pumps. I am also making a very superior Pump to any in this market for windmills, single-acting. I am making four different kinds of double acting Force Pumps, and different sizes of each kind. I am also making Artesian Well Pumps of a superior kind. This Pump may be lowered to any well to any depth desired. It is a force pump, or it is a suction pump, or it is a lift pump, and may be worked by hand or windmill, or any kind of power. Can be used for oil wells better than any other, and the Pump is the most durable and easiest repaired of any Pump in the country. I have now on exhibition at the State Fair thirteen Pumps in brass and iron, all of my own make, which can be seen at my place after the close of the Fair.
I have invented and am making a superior double-acting Force Pump, called the GOLDEN STATE, which has great advantages over any Pump in this State. It is the easiest Pump repaired, and is the most durable of any Pump in the pump kingdom. Any one in want of a Pump or anything in my line, will do well by calling at my place before purchasing elsewhere.
☞This Pump received the **Silver Medal** and highest premium at the Mechanics' Fair.
☞I also keep all kinds of DOUGLASS and other makers' Pumps on hand. 11v17-1t

THOMPSON BROTHERS,
EUREKA FOUNDRY,
129 and 131 Beale street, between Mission and Howard, San Francisco.
LIGHT AND HEAVY CASTINGS,
of every description, manufactured. 24v16qr

G. T. PRACY,
MACHINE WORKS,
NOS. 109 and 111 MISSION STREET,
Between Main and Spear.
New and second-hand Engines and Boilers for sale.
One first-class Hoisting Engine for sale.
One upright Engine, of entirely new pattern.
Manufacturer of Lathes, Drills, and Mill Machinery of every description.



PRACY'S New and improved Steam Engine Regulators—the best and cheapest yet invented—manufactured and for sale.
Parties are invited to examine it in practical operation.
F. A. HUNTINGTON'S
Shingle Machines on hand.
PARTICULAR ATTENTION PAID TO REPAIRING.
☞All work guaranteed to be done in a first-class manner, and at the lowest rates.

IRA P. RANKIN. A. P. BRAYTON. A. C. AUSTIN.
Pacific Iron Works.
First and Fremont Streets,
SAN FRANCISCO.
Having been established since 1851, we have accumulated a very large variety of Gear and other Patterns, which, with our superior tools and appliances, give us facilities for doing first class work unequaled on the Pacific Coast.
Among other things, we manufacture the following:
STEAM ENGINES,
Horizontal and Vertical, for either Stationary or Marine use.
BOILERS—High and Low Pressure,
Pump, Pipe and Sheet Iron Work of every kind.
Quartz Mill Work,
Including High and Low Mortars, for wet or dry crushing; Furnace Irons for Roasting Ores; Freiberg Barrels; Varney's and Wheeler's Amalgamating Pans and Settlers; Stamp Shoes and Dies of best White Iron; Russia Iron Screens, etc., etc.
Flour Mill, Saw Mill and Sugar Mill Work in every variety; Pumping and Hoisting Machinery; Hansbrow's Patent Chalience Pump, for Domestic, Ship and Mining use—the most approved and successful Pump manufactured.
Castings of every description, Iron and Brass.
We would call especial attention to "Wright's Patent Variable Cut-off Engines," of which we are the sole manufacturers on the Pacific Coast, under license from the Woodruff & Beach Co., Hartford, Ct. As a simple, effective, FUEL SAVING, first-class Engine, this is, without doubt, the best Engine made in the United States.
Orders promptly attended to. Prices as low as possible for first-class work, and we intend to do no other.
GODDARD & CO.
San Francisco, May 1, 1863. 18v16tf

Phœnix Iron Works.



JONATHAN KITTREDGE, Proprietor,
Nos. 18 and 20 Fremont street, near Market,
MANUFACTURER OF
Fire-Proof Doors, Shutters,
Wrought Iron Girders, and all kinds of Housesmith work, Bridge and Prison Work;
BANK VAULTS AND MONITOR SAFES,
FORGING AND MACHINE WORK.
Agency for the ISHAM KEY REGISTER BANK AND SAFE LOCK, the only first class Lock in the United States
1v17tf

MEXICO.—The last political and financial news from this Republic is satisfactory. Our correspondents inform us that the country throughout is in a pacific state; that Señor Romero, Minister of the Treasury, has informed several mine owners that Congress would next session (October) pass a hill, allowing the export of gold and bar silver. Government had reduced the national dues 3 per cent., and those on mines 1½ per cent, There was a general desire and conviction among three-fourths of the members in Congress for carrying out free trade principles. Mr. Romero's long residence at Washington as Minister Plenipotentiary was considered a most favorable circumstance for supporting those views, as he himself is a great advocate of free trade. Mr. Romero had likewise informed foreign mine owners that everything would be done to favor their interests, and that his Government would do everything to induce foreign capitalists to enter into mining and other speculations, by passing in Congress many measures for the special protection of mining and other branches of industry. A hill had been also passed in Congress for the suppression of highway robbery, and for establishing martial law in all the provinces, by which minor authorities could at once proceed to judge and convict within 48 hours, and apply capital punishment. We may here call attention to the circular published in this day's *Journal* of the New British Mining Agency, that has been established in the city of Mexico by Mr. Stewart Auld, who is so well known in connection with mineral industry. —*London Mining Journal.*

NEW PRINCIPLE IN CONCENTRATION—DRY METHOD.—A patent has been obtained in Washington and Ottawa, by S. T. Pearce, the Superintendent of the Buckingham Plumbago Works, Canada, for a new dry method of concentrating all kinds of ore, by the employment of centrifugal force in connection with graduated receivers; doing away with the use of water, by which so much mineral is now lost. It is now claimed that ore separation is done by this method by mechanical means alone, without the employment of manual labor, and that it is as simple as the filling of grain.

J. NEWSHAM. J. BIGWOOD.
SOUTH BEACH IRON WORKS,
Near corner of King and Third streets, San Francisco.
MARINE ENGINES,
AND ALL KINDS OF
MACHINERY FORGING.
All kinds of Ship-smithing and Mill work manufactured to order. Jobbing of every description promptly attended to. All work done guaranteed. 13v14-1y

LINCOLN IRON WORKS,
No. 51 Beale st., bet. Market and Mission.
D. FOURNESS, Proprietor.
STEAM ENGINES,
Flour and Sawmills, and MACHINERY of all descriptions made and repaired at shortest notice.
☞Particular attention paid to repairing Reynold's Cut-off 5v15qr

CALIFORNIA BRASS FOUNDRY.
No. 125 First street, opposite Minna,
SAN FRANCISCO.
ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.
☞PRICES MODERATE.☜
J. P. GALLAGHER. J. H. WEED. V. KINOWELL.
9v13-1y

WM. HAWKINS. T. G. CANTRELL.
HAWKINS & CANTRELL,
MACHINE WORKS,
Nos. **210** and **212** Beale street, between Howard and Folsom streets, San Francisco.
Manufacturers of STEAM ENGINES and all kinds of Mill and Mining Machinery. N. B.—Jobbing and Repairing done with dispatch. 10v17 3m

To Inventors.
The undersigned is now prepared to assist inventors or others by manufacturing Models for the Patent Office, large working Machines or Devices of every description, in Metal or Wood, in the most workmanlike manner and at reasonable rates. Also, Patterns for Iron and Brass Work and all kinds of Machinery.
Having had ten years practical experience in this city, parties can be assured all work entrusted to me will be executed in a prompt and satisfactory manner. Power will be granted to parties wishing to test or experiment with machinery
☞Full files of the Patent Office Reports for the use of patrons **J. H. CULVER,**
3v17-3m **20** Fr street, over Phœnix Iron Works.

The Risdon Iron & Locomotive Works,
Incorporated, April 30, 1863 Capital, $1,000,000.
Location of Works, Corner Beale and Howard streets,
SAN FRANCISCO.
Successors to Pacific Mail S. S. Co. Works at Benicia, Coffey & Risdon, and Oevoe, Dinsmore & Co., San Francisco.
Steam Engine Builders, Boiler Makers,
MACHINISTS AND FOUNDRYMEN.
All work in their line attended to with promptness and dispatch. DIRECTOR—S. F. Butterworth, Lloyd Tevis, Jas. Pollock, Gen. Holladay, Chas. E. McLane, John N. Risdon, Joseph Moore, John N. Risdon, President; Joseph Moore, Vice President and Superintendent; Chas. E. McLane, Treasurer; Lewis R. Mead, Secretary; Lewis Coffey, Superintendent Boiler Works. 8v17 qy

[Written for the Mining and Scientific Press.]

The Hagan Furnace.

EDITORS OF THE MINING AND SCIENTIFIC PRESS:—The results attending the working of the Hagan Furnace Process, at the mill of the Enterprise Gold and Silver Mining Company, are so remarkable in their character, and so important in their bearing upon the quartz interest of the Pacific Coast, that the undersigned, Secretary of that Company, deems it due to the public that a statement of the facts should be widely published.

It is well known that the ore of the Enterprise mine has been regarded as one of the most refractory of the California gold ores, and that it has hitherto successfully resisted the almost innumerable attempts of the most skillful metallurgists who have sought to reduce it. No chemical agent could be found which would tame its rebellious nature or make it susceptible of amalgamation, and the Trustees were at a loss to know what experiment next to try. The Hagan process having been brought to their notice, they entered into a contract with the Pacific Ore Company, of San Francisco, for the erection of a Hagan Furnace, the acceptance of which was conditioned upon the successful treatment of their ore by that method, and it is but proper to say that but little expectation of success was entertained by the Trustees, so hopeless did the case seem. Indeed, during the erection of the furnace, and subsequently, every effort was put forth to find some way of conquering the ore, and much money was spent for this object, but without successful results. The last working of 20 tons, under the superintendence of a skillful and experienced amalgamator, returned only about one hundred dollars for the lot (less than five dollars per ton), while the value of the quicksilver lost in the working amounted at the lowest estimate to $105,—*being about five dollars more than the whole value of the bullion realized from the twenty tons.*

The Hagan Furnace was now set to work, and up to this time we have received the returns from fifty-five tons of the ore treated by that method, under our own supervision, and we should have remarked that these fifty-five tons seemed identical in character and value with the twenty tons previously worked, having been carefully assorted with a view to uniformity and for the purpose of a rigid test and comparison of results.

The total bullion returned from these fifty-five tons is the sum of $1,015.50, equal to $18.52 per ton, or nearly four times as much as the best returns we were able to get by any other method of working. It is hardly necessary to pronounce such results a very decided success, in view of which the Company have accepted the furnace. And the conviction cannot be resisted by us that the Hagan process is a complete solution of the whole question of the treatment of sulphuret ores—and that it opens up to the public use the way to secure all that vast mineral wealth which has been so long locked securely within the refractory ores of this coast. In this conviction, the undersigned most heartily recommends the Hagan method of reduction to the earnest and careful investigation of all interested in quartz mining, being fully satisfied that such an investigation will lead to its general adoption for the treatment of all refractory ores.

(Signed) WM. B. MAY,
Sec'y Enterprise G. and S. M. Co.
SAN FRANCISCO, Sept. 22, 1868.

GEO. E. ROGERS,
(Successor to G. W. Bell.)
ASSAYER,
512 California st., San Francisco.
J. A. MARS, Assayer.
Ores carefully Assayed. Gold and Silver Ores worked.
23v16-qr10pur

International Hotel,
JACKSON STREET,
BETWEEN MONTGOMERY AND KEARNY STS.,
SAN FRANCISCO, CAL.

THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The Beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.
Prices varying from $1 50 to $2 per day for Board and Room.
FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.
☞ Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents
21v12 F. E. WEYGANT, Proprietor.

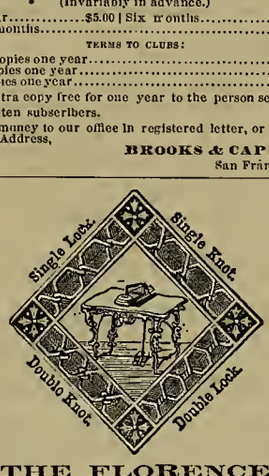
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IMPORTERS AND REFINERS
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Illuminating, Lubricating,
—AND—
PAINT OILS,
CONSISTING OF
KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS, NEATSFOOT, BOILED AND RAW LINSEED, CASTOR AND CHINA NUT.
—ALSO—
Spirits of Turpentine and Alcohol.

Lamps and Lamp Stock!
An elegant and complete assortment.

SOLE IMPORTERS OF
Devoe's Illuminating Oil.
PATENT CANS.
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THE GOLDEN ERA.

Founded in 1852, it is the oldest Weekly Paper in the State, permanently established, and more widely circulated at home and abroad than any other on the Pacific Coast. In California, the Atlantic States, and throughout the entire field of its great and rapidly increasing circulation, THE GOLDEN ERA is universally regarded as a Literary and Family Journal of unequalled excellence. Among its contributors are all the best writers on this side of the Continent.
THE GOLDEN ERA
Is the most universally popular of all the Weekly Journals. It presents forty-eight columns, containing the greatest possible variety of Valuable and Entertaining, Original and Selected matter. It is a welcome guest in Cottage and Cabin; the favorite at the fireside in city and country; the most useful, agreeable and altogether desirable publication for California readers and their kindred and friends in the Atlantic States, Europe and elsewhere. Every household in the mountains and valleys, the cities, towns and mining camps of California, and throughout the Pacific States and Territories, should receive and welcome THE GOLDEN ERA as a regular weekly visitor. Inspired with the genius of the age, it is progressive, and aims not so much at distinction as a newspaper, as at honorable success in its capacity of a great Moralizing and Improving Influence. Exercising a positive power for good, and wielding a permanent influence, many able and eminent writers choose its columns as a means of communicating with the public. No effort will be spared to make it a thoroughly California newspaper, and worthy of the support of all classes of our citizens.
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Send money to our office in registered letter, or by Express, Address,
BROOKS & CAPP,
11v1 San Francisco



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RECEIVED THE HIGHEST PREMIUMS
At all the most important Fairs held in the United States in the year 1867. Gold Medals at the American Institute Fair, New York; Mechanics' Association Fair, Lowell; Maryland Institute Fair, Baltimore. Highest Premium at the New York State Fair, Buffalo, and at the Great New England Fair, Providence. At the Fairs held on the Pacific Coast, this machine has taken
Every First Premium
Awarded on Family Sewing Machines in the LAST FIVE YEARS. If there is a Florence Machine within one thousand miles of San Francisco, that is not giving entire satisfaction, if I am informed of it, it will be attended to without express charge or expense of any kind to the owner.
SAMUEL HILL, Agent.
11v16-4m 111 Montgomery street, San Francisco.

HELY & CUSICK,
PRACTICAL
HOUSE
AND
Ship Plumbers,
914 Market Street,
A few doors west of Stockton.

Bath Tubs,
Water Closets, Wash Basins and Gas Fixtures always on hand. Buildings fitted up with
Gas, Water and Steam, in the most improved manner.
Particular attention paid to Jobbing. All work warranted one year. 13v16-1y

American Saw Company.


MANUFACTURERS OF
EMERSON'S PATENT
Movable-Tooth and Perforated Circular Saws,
Perforated Mulay, Mill and Cross-Cut Saws, with Adjustable Sockets.
SAW-GUMMERS, SWAGES, CANT DOGS,
Etc., have established an office for the sale of the above articles, at
No. 606 Front street, San Francisco.
☞ Descriptive Pamphlets will be forwarded to any one
5v17tf

WM. SHERMAN & CO.,
CLOTHIERS,
MERCHANT TAILORS,
AND DEALERS IN
Men's Furnishing Goods,
TRUNKS,
Traveling Bags, Valises, etc.
THE LARGEST
AND BEST SELECTED STOCK
IN THE STATE.
No. 608 Montgomery street, East Side, North of Clay,
SAN FRANCISCO.
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HO TEAMSTERS!
CONTINUE TO
USE HUCKS & LAMBERT'S
CELEBRATED
H & L Axle Grease,
To which you have given so decided a preference for the last
FOURTEEN YEARS,
It is the only reliable article
IN THE MARKET
Every care will continue to be used to sustain the high reputation the H & L Axle Grease, has so long and justly attained.
☞ Be sure and ask for the H & L brand, and see that the
TRADE MARK H & L
IS ON THE COVER OF THE PACKAGE
NONE OTHER IS GENUINE.
FOR SALE IN EVERY STATE IN THE UNION.

CARPETS, OIL CLOTHS, DRAPERIES,
SHADES, Etc., Etc.
LOUIS F. KNIGHT,
542 California St., east side of Kearny,
SAN FRANCISCO.
I can offer from the largest and best assorted stock in the city anything in our line.
AT PRICES TO SUIT ALL.
FURNITURE AND MATTRESSES
Made to order.
All kinds of upholstering executed with neatness and dispatch. 9v17

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OUR IMMENSE STOCK
—OF—
Fine Custom Made Clothing
—AND—
Gents' Furnishing Goods
AT PRICES THAT DEFY COMPETITION.
Our Stock of Clothing Consists of
ALL THE LATEST STYLES
BOTH OF MATERIAL AND FINISH.
A Large Assortment of
Trunks, Valises, Carpet Bags, Blankets, Etc.,
AT EXTREMELY LOW PRICES.
J. R. MEAD & CO.,
8v10 Cor. of Washington and Sansome streets.

THE GIANT
POWDER COMPANY
Is now prepared to fill all orders for
GIANT POWDER,
Put up in Boxes, either in Bulk or in Cartridges.
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25v16-3m 210 Front street, San Francisco.

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HYGEIAN HOME WATER CURE.
No. 637 California street, opposite St. Mary's Cathedral.
WE HAVE NOW THE MOST EXTENSIVE AND COMplete Health Institute on the Pacific Coast, both for ladies and gentlemen. The success which has attended industry and an honest pursuance of this rational mode of curing the sick for the past ten years, has enabled Dr. Smith to establish a Home combining all the Hygienic appliances essential to the invalid. Owing to our increased facilities, we feel warranted in reducing the prices for gentlemen to $50 per month; to ladies from $15 to $20 per week for board and treatment.
FARLOW J. SMITH, M. D.,
Physician and Surgeon.
H. G. COSGROVE, Superintendent. 21v16-3m

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Pioneer Screen Works,
JOHN W. QUICK, Manufacturer,
Removed to Vulcan Iron Works, Fremont street, between Mission and Howard, San Francisco.
Screen Punching in all its branches, at rates reduced from 25 to 40 per cent less than the established rates. I can furnish Improved Quartz Screens several sizes finer than any Screen ever punched, giving universal satisfaction, and for strength, cheapness and durability are not excelled. Also, Punched Screens of all sizes and fineness made from all qualities of material, for Quartz, Cement, Flour and Rice Mills, etc. Screen Punching made a specialty; therefore millmen forwarding their orders to me will receive none but the best. Orders solicited.
N. B.—J. W. QUICK is the only competent and successful manufacturer of Screens in the State, having made Screens for the principal mills in this State and adjoining Territories for many years. Quartz mill owners using punched Screens which have universally failed to give satisfaction, when visiting the Mechanics' Institute Fair, will please call and see me. 5v17-1y

Mining Secretary.
THE SUBSCRIBER, HAVING SERVED FOR THE LAST five years as Secretary of various mining companies, feels fully competent to serve in that capacity. Any parties wishing to secure the services of a Secretary can be accommodated on reasonable terms. Information given, and all necessary papers correctly made out.
Having had a long experience in the purchasing of goods and machinery for miners, parties in the mines will find it to their advantage, where purchasing agents are employed, to send their orders to the undersigned.
J. M. BUFFINGTON,
Room 37 New Merchants' Exchange, California street, San Francisco. 17v15-1f

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COMPANY.
Steamer CAPITAL.....CAPT. E. A. POOLE
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" YOSEMITE.....
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Office of the Company, northeast corner of Front and Jackson streets.
B. M. HARTSHORNE,
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For Catalogues, containing full information, please address MRS. G. M. BLAKE, Principal,
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REFERENCES:—Rev. Sam'l H Wiley, Oakland; Hon. Sherman Day, Oakland; Rev. A. F. White, Carson City. 3v17qr

$6.00 $6.00
THE HANCOCK
SEWING MACHINE!
PRICE ONLY $6.00.
The Greatest Novelty Yet!
This is the simplest and cheapest Sewing Machine ever made, and performs its work with marvellous efficiency. Call and see it. Agents wanted everywhere, and great inducements offered. Sent by express, free of expense, on receipt of price (or C. O. D.) to all places in this State where we have no agents.
FULLER & CO., Agents for Pacific Coast.
4v17-3m 109 Montgomery street, San Francisco

THE sale of town lots at Vallejo, on the Frisbie estate, and immediately contiguous to the terminous of the California and Pacific Railroad, took place this week at Platt's Hall. About 600 people were present. The bidding was fair, but not enthusiastic. Lots of about 50 feet front by 90 to 100 deep, brought from $440 to $200. They mostly went off in batches of five lots to a purchaser. The sum realized did not equal the expectations of the sellers.

CHINESE TENEMENTS AND THE STEAM FIRE ENGINE.—The city of Singapore has adopted the steam fire engine system, with a regular hired fire brigade, for that city of tropical heats and destructible Chinese tenements. The Chinese and Japanese will not be long in learning the use that there is in steam fire engines.

A METHOD has been discovered of separating the honey from the comb, by centrifugal force. The process leaves the cells so little injured that the sweet creatures that fill them can go to work filling them again after a short season spent in repairs.

IT is stated that the celebrated yacht Henrietta, belonging to James Gordon Bennett, Jr., will leave New York in a few days for San Francisco.

The Oakland Daily Transcript,

A BIT PAPER.

The Largest Circulation in the County.

Advertisements in the Transcript will reach every part of Alameda County.

RATES FOR ADVERTISING

VERY LOW.

Pacific Powder Mills.

SUPERIOR BLASTING AND SPORTING GUNPOWNER

Black Diamond, in 1lb canisters.
do do in ½lb canisters.
do do in ¼ kegs.
Hunter's Pride, in 1lb canisters.
do do in ½lb canisters.
do do in ¼ kegs.
do do in ⅛ kegs.
Pacific Mills River Shooting, in 1lb canisters.
do do do in ½lb canisters.
do do do in ¼ kegs.
do do do in ⅛ kegs.
do do do in 25lb kegs.
Pacific Mills Rifle, in 1lb canisters.
do do in ½lb canisters.
do do in ¼ kegs.
do do in ⅛ kegs.
do do in 25lb kegs.

Blasting and Mining Powder $2 25 per keg.
Safety Fuse and Shot for sale by
HAYWARD & COLEMAN, Agents.
24v15 3m 414 Front street, San Francisco.

NOTICE.

On and after this date, all parties on the Pacific coast manufacturing, using, or selling

Dunbar's Patent Piston Packing,

must obtain a License for the same from the undersigned, or they will be subject to the penalties of the law.

H. S. SMITH,
Ætna Iron Works.
San Francisco, August 15th, 1868. 7v17-3m

Novelty and Usefulness Combined.

Wilson's Prepared Solder

Dispenses with the Soldering Iron.



It will save you both time and labor. One bottle of this Solder will mend all the tins you have laid one side tor months, and make them good as new. Cet them out and mend them. It is cheap—only 50 cents a bottle; it is convenient and compact. Use any kind of lamp that has a blaze no larger than a single wick; a spirit lamp will make no smoke. You may mend a dish or can over the best table without fear of spoiling it. Try it, and you will never want a soldering iron in the house again. What a saving to farmers. No more stopping up of holes in milk pans with a rag. Milkmen can mend their own cans. It does the prettiest job on any article you have in the house, from a pint dish to a wash-boiler. It is a sure thing to stick when resin and solder will not. It will stand heat as well as any solder ever used over fire

PACIFIC COAST AGENCY, office of the Pacific Publishing Company, 31 Kearny street, San Francisco. AGENTS WANTED. 6v17tf

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BARTLING & KIMBALL,

BOOKBINDERS,

Paper Rulers and Blank Book Manufacturers,

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15v12-3m SAN FRANCISCO.

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(SUCCESSOR TO O. GORT)
MARBLE WORKS,
No. 421 Pine st. bet. Montgomery and Kearny, San Francisco

Mantels, Monuments, Tombs, Plumbers' Slabs
Etc., On hand and Manufactured to order.
☞ Ooods shipped to all parts of the State. Orders respectfully solicited. 5v8-3m

Palmer's Patent
ARTIFICIAL LEG,
Manufactured in Philadelphia, Penn.
JARVIS JEWETT, AGENT.
218 Montgomery Street, San Francisco. 10v8-1m

J. M. STOCKMAN,
Manufacturer of
PATTERNS AND MODELS,
(Over W. T. Carratt's Brass Foundry,)
S. E. Corner of Mission and Fremont sts.,
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SEAL ENGRAVER,
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Brass and Steel Stamps and Dies, **522** Montgomery street, San Francisco. Orders by express promptly attended to. 6v16

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SPIRITS OF NITRE,
AQUA AMMONIA,
ACETIC ACID,
CYANIDE OF POTASSIUM
—AND—
ACIDS AND CHEMICALS OF ALL KINDS.
FALKENAU & HANKS,
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LOUIS FALKENAU, State Assayer.
☞ Particular attention paid to the Analysis of ORES, MINERALS. METALS, etc. 8v17

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Young and Old Making Money!



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LOWE
PORTABLE
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You Can do Your Own Printing at a Trifling Expense.

It is the best, cheapest, and simplest Press ever invented. Gives perfect satisfaction to all who purchase, and is pronounced by all a "perfect success. We have sold many of them to Postmasters, Printers, Druggists, Clergymen and all classes of business men, and they are making and saving money by using them at their homes and places of business.

Price of Presses. $8, $12, $16, $23, $30. Price of Offices, $15. $.0, $30, $42, $48, $70. Send for Circular to LOWE PRESS COMPANY, 3 Water street, Boston. 4v17tf

REMOVAL.

THE
MINING AND SCIENTIFIC PRESS
(Patent Agency, Newspaper and Job Printing Office)
Will be REMOVED this day from No. 505 Clay street to
No. 414 Clay Street, below Sansome,
About one-half block east of our former location.
August 8th, 1868. **DEWEY & CO.**

GET THE BEST!
HILL'S
PATENT DIAL CANCELING AND BANK STAMP.
Bank Stamp.



These are the ONLY STAMPS having a Dial to indicate the dates. After a year's trial, the Dial Stamp has proved to the public that it is perfectly reliable in every respect, and for convenience, durability and price, has no equal.

The dates are all cut on a solid wheel, which makes them durable, and not liable to get out of order.

These Stamps are manufactured of the best material in the most perfect and substantial manner.

JOHN G. HODGE & CO, Agents,
329 and 331 Sansome street, S. W. cor. Sacramento, San Francisco.

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COMMISSION MERCHANTS,
ADVANCES MADE
On all klads of Ores, and particular attention
PAID TO
CONSIGNMENTS OF GOODS.
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NATHANIEL GRAY. H. M. GRAY.
N. GRAY & CO.,
UNDERTAKERS,
641 Sacramento St., cor. Webb, San Francisco.
☞ Sole Agents for Barstow's Metallic Burial Cases and Caskets. 25v14tf

JAS. LINFORTH. E B. RAIL. F. D. KELLOGG.
LINFORTH, KELLOGG & RAIL,
(Successors to L. B BENCHLEY & CO.)
IMPORTERS AND JOBBERS OF
AMERICAN, ENGLISH AND GERMAN
HARDWARE,
AGRICULTURAL IMLPEMENTS,
—AND—
Mining Tools,
No. 3 and 5 Front Street, near Market,
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EMPORIUM,
No. 59 Second street, second door from northeast corner of Mission st.,
SAN FRANCISCO.
Gent's Furnishing Goods,
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A large selection at the lowest prices possible.
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BANK OF SAVINGS,
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Interest paid on Deposits. Money Loaned on Real Estate.
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FREDERICK MANSELL.
Mechanical & Architectural Draughtsman,
No. 422 California street, corner of Leidsdorff.
Drawings of MODELS made for parties apply for patents at Washington or London. ar23-tf.

JOHNSON & BEST,
Carpenters and Cabinet-Makers
717 Market street, near Third.
Stores and Offices fitted up. Office Desks, Show Cases, and all kinds of Cabinet Work, made to order.
Furniture Repaired, Varnished and Polished.
French Polishing done to order. 12v17-3w

BUERK'S
Watchman's Time Detector.

THIS WATCH-CLOCK WAS INTRODUCED TO THE public in almost every section of the United States and Canada is about five years ago, and it has proved itself to be the best invention in the world for testing the faithfulness of Watchmen. Since its introduction, the Proprietor has improved on some parts, and corrected deficiencies, and he has now

A Perfect Check upon the Watchman.

With other Clocks, a regular routine has to be followed, but with this a Watchman can be ordered to visit any particular place as often as required, without being compelled to go to places where it is not necessary to visit as often.

The instrument is complete in itself, portable, and as reliable as the best lever watch

It is not so likely to become disarranged in its works as a good watch, because its parts are stronger. But when it needs cleaning, any common watchmaker can adjust it, its mechanism being simple. It requires no fixtures or wires communicating from room to room, as is the case with the ordinary Watch-Clocks; a small, inexpensive stationary key is alone required at each station By its use places can be guarded that it would be impossible to guard with any other instrument, such as Railroad Tunnels, Bridges, Yards, Shops, etc. The instrument will in all cases be warranted perfect and satisfactory. Its price is invariably *Seventy-five Dollars*, cash on delivery, including as many keys as are requisite, not exceeding twelve.

THIS WATCH-CLOCK IS SOLD AT A LESS PRICE THAN ANY OTHER IN THE MARKET.

The DETECTOR is used extensively by large Manufacturing Establishments and Railroad Companies in the United States, from whom numerous testimonials have been received.

☞ This Detector is covered by two U. S patents. Parties using or selling these instruments without authority from me will be dealt with according to law.

N. B.—Parties purchasing these Clocks should test them sufficiently in the counting-room or office, as they will not be taken back after having been injured by the Watchman through carelessness.

All communications promptly attended to. Address
J. E. BUERK, Proprietor,
47 Congress street, Boston.
P. O. Box, No. 1057. 23v16 6m

SWAIN'S PATENT
Anatomical Boots
AT TEN DOLLARS PER PAIR.
Having received lately from Washington a patent for his new invention in Lasts, he is now prepared to make and sell as good Boots as the world can produce, at the above named price. A liberal discount will be given to the trade
J. H. SWAIN,
206 Bush street, San Francisco.

REGISTER YOUR LETTERS containing money addressed to us, or we will not be responsible. Remittances by Express must be in packages, prepaid. When practicable, it is best to remit by draft, or order, on some San Francisco bank or firm

Professional Cards.

J. S. PHILLIPS.
MINING ENGINEER, Etc.,
Wadsworth House..... San Francisco.
Having had 33 years experience in the various departments of Mining Engineering and Metallurgy, in Cornwall and America, solicits orders for the examination of Mineral Properties throughout the North and south Americas; minerals assayed or analyzed; advice for beneficiating refractory ores; Metals sold; capital procured for developing valuable ledges. 4v17tf

N. WESCOATT,
Surveyor and Mining Engineer.
Having returned to Yuba County, Cal., after an absence of several years in the State of Nevada and the Eastern States, will attend to all business in his line in this State, or the State of Nevada, or adjoining Territories.
All orders will be attended to with dispatch, and satisfaction given.
REFERENCES:
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(Recently from Mazatlan.)
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THE LATEST IMPROVEMENT
In Dentistry.



PATENTED DECEMBER 3d, 1867, by DR. O. W. COOL. The right of San Francisco reserved for his own use. The nature of his improvement consists in lining the entire concave surface with fine gold; it makes the plate twice as strong and one-third thinner than the common vulcanite plate. This work has given satisfaction in every case. Please call at No. 14 Third street, near Market, and see specimens. All work warranted as fine as the specimens. Prices reasonable. 21v16 3m



RADICAL CURE
—OF—
RUPTURE!



Treatment of all Deformities of the Body, by DR. A. FOLLEAU'S process, **624** Washington street, up stairs, Washington Baths Building, between Montgomery and Kearny streets.

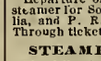
DR. A. FOLLEAU
Has his studies and manufactories in the same building. Every kind of Apparatus, Trusses, Orthopedic Instruments, Artificial Limbs, etc., are manufactured and applied by himself.
☞ *He has no connection with any Agency.* 24v14-11ptf

JAMES M. TAYLOR,
Attorney and Counsellor at Law,
Court Block, 636 Clay Street
SAN FRANCISCO.
2v15-1qy

Edward and John A. Stanly & A. W. Blair
ATTORNEYS
AND COUNSELORS AT LAW,
Southeast corner of California and Sansome streets, over the Bank of British Columbia. 19v16-3m

Pacific Mail Steamship Co's

STEAMSHIPS FOR
NEW YORK, JAPAN AND CHINA.



LEAVE WHARF, CORNER OF FIRST AND Brannan streets, at **11** o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPINWALL for NEW YORK:

On the **6th, 14th, 22d** and **30th** of every month.

Steamer leaving San Francisco on the 6th touches at Manzanillo. All touch at Acapulco.

Departure of the 14th is expected to connect with the French Trans-Atlantic Co.'s steamer for St. Nazaire, and English steamer for South America. Through tickets can be obtained.

Departure of 14th is expected to connect with English steamer for Southampton and South America, and Australia, and P. R. R. Co's steamer for Central America. Through tickets can be obtained.

STEAMERS FOR SEPTEMBER, 1868.

The following Steamships will be dispatched on dates as given below:

September 5th—COLHEN CITY Captain E. S Farnsworth, Connecting with ALASKA, Capt. Gray
September 14th—SACRAMENTO.....Capt. W. H. Parker, Connecting with OCEAN QUEEN, Capt. King.
September 22d—MONTANA.....Capt. J. M Cavarly, Connecting with HENRY CHAUNCEY, Capt. Conner.
September 30th—CONSTITUTION, Captain W. H. Hudson, Connecting with ARIZONA, Capt. Maury.

Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult.

An experienced Surgeon on board. Medicine and attendance free.

These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.

Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—if desired an amount of £10 to £20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England.

The Steamship JAPAN, Capt. Geo. E. Lane, will be dispatched on MONDAY, August 3d, at 12 o'clock, noon, from wharf, corner of First and Brannan streets, for YOKOHAMA and HONGKONG, connecting with the COSTA RICA for SHANGHAI.

For Merchandise and Freight for New York and way ports, apply to Messrs. WELLS, FARGO & CO.

For passage and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets.

OLIVER ELDRIDGE, Agent.

Manufacturing Rooms to Rent.

We have a large, light room, 40x44 feet, in second story, at 414 Clay street, for rent low; also room adjoining, 22x42 feet. DEWEY & CO.,
Publishers and Patent Agents.

Californians in the China Gold Mines.

Prospecting adventures in China are described by a correspondent from Chefoo, dated Aug. 8th, as follows:

"We organized a prospecting party of three—a Californian, an Australian, and a General Ward's man—immediately upon our arrival at Tulloch's Temple, twenty miles from Chefoo, on the 29th ult. Our first effort was near a Mandarin's tomb, where the Chinese said immense specimens were buried. A shaft was sunk, but a storm coming on flooded our claim, and we retired, demoralized, back to camp. The next day we prospected for some six miles to the northward, and toward Lookout Mountain, fifteen miles south of Chefoo. Our China boys and muleteers early evinced a desire to fall back upon Chefoo, but we kept them in company, and went on seeking gold in the deep ravines by the wayside. We raised mica, mundic, black sand, and everything except gold, and were going in after that with a will, when the headman of a village near by, ordered our packs to 'move on.' We moved on, as otherwise we would have been obliged to do our own packing. At the Goldeu Hill Temple, fifteen miles south of Chefoo, we halted and put up for the night. That afternoon a rough map of the country was made from the top of Lookout Mountain.

The next day we went down to a creek near by, and watched some thirty Chineso washing out gold. It was after the rains, and they were evidently making a good thing of it. They used a shallow wooden vessel, something like a bread-tray, a blunted rake, dipper, and spade, and got through a great deal more earth than we could with our tin pans. A portion of the gold was evidently lost in the raking, yet nearly all the trays showed at least 30 cents after a few minutes washing. We selected a spot some little distaace above these fellows, and with a pan soon brought up the color with two shovelfuls only. This satisfied us of the richness of the creek, and when we went back to our quarters, the Chinese followed us with their dust, some of which we bought at a fair exchange for Mexicans. After making another satisfactory prospecting tour of some twelve miles among the hills and ravines, we changed our camp to a range of mountains which bordered the view at a distance of fourteen miles to tho southwest of Lookout Mountain. The mountain sides were very rough and broken by deep and ahrupt ravines, and sometimes difficult of passage; yet cultivation extended to all available places, and for the 150 miles or more that we traveled during our ten days excursion, richly cultivated valleys and terraced hills, with a teeming population of Chinese, met the gaze everywhere, and a fraction of the last was always at hand to disconcert us when we believe ourselves most aloae in our deep conferences with the God of Mammon.

We found the country people very friendly and ready to meet us half way with their chickens and eggs, while the head men of the villages seemed to be never more satisfied than when they kept us moving on."

After describing some unsuccessful prospecting in other directions, the party was finally brought up 28 miles southeast from Chefoo, and forced to heat a retroat from want of supplies, in the following manner:

"At early dawn a village was visited, but a mandarin's proclamation had been there before us; and the villagers made no sign, but evidently wished us well away. Our muleteers were clamerous for food, and for ourselves aid and comfort were needed; but the headman pointed to the notice forbidding any aid and comfort being given to foreigners, or any other roaming vagahond scoundrels, seeking convenient places to dig for gold! A learned siuologue of the party quoted some of the goldeu maxims of Confucius, (who, by the by, was a Shantungite, horn, hred and huried,) consigning in the most coucise terms all of his countrymen who would not feed a heggar in distress to the lowest depths of bad Fungshueydom; hut it was of no avail, and after a brief look at the hills to satisfy us that gold was indicated thereabouts, we packed up and left for Chefoo again."

Chefoo correspondents of the Chinese newspapers speak of what Californians may he expected to do in the gold mines. Tho mines are prohibited to foreigners, hut a great many go there in spite of the opposition of the Governors or Taouates. Chineso who have been in California go to work without leave or license. The newspaper writers call vigorously for a immigration of Californians. The Shanghai *News Letter* says:

"We think it not improhahlo that about 1846 the Alcades of Yerba Buena and Montrey were quite as troublosomo to the captains of the few hide ships that went there, as the Taoatues of to-day; and that the U. S. Government did not take any strong measures in the matter; hut after Captain Sutter found gold on his farm—the inference is ohvious."

Academy of Sciences.

The Society met at their rooms on Monday evening, September 21st, at 8 o'clock, President Blake in the chair. A resolution, offered hy Dr. Stout and seconded hy Dr. Logau, was carried, tendering the thauks of the Society to Col. R. S. Williamson, for the gift of his own work "On the Uso of the Barometer on Surveys and Reconnoissances." The thanks of the Society were also voted to their Secretary, Mr. Elisha Brooks, for his gift of a cataloguo of the library, prepared by himself; and also to Dr. Logan, who presented some specimens of Peles' hair, or *obsidian*, from the crater of the volcano of Mauna Loa, in the Sandwich Islands.

RECENT ATMOSPHERIC PHENOMENA.

A discussiou ensued relative to the remarkahle appearauce of the sun during the late smoky or foggy condition of the atmosphere. It was generally conceded that the obscuratiou could not have proceeded from the hurning of forests in Oregou or in Marin county, although soveral interesting facts were cited tendiug to establish that origin. The sun, viewed through smoke alouo, assumes a red color, while its appearance on this occasion was a pale puce color, or pink, or violet, as the density varied. The more favorite opinion seemed to attrihute the phenomena to the existence of saline or sillicious matter floating iu the atmosphere. The dryness of the air had probably ahsorbed the moisture from the fog, leaving the saliue particles snspended, as particles of ice frequently are, hy which the sun's rays were acted upon. This condition of "dry fog" is common in northern Europe, where similar appearances are observed.

THE OCTOPUS, OR CUTTLE-FISH.

Dr. Stout offered to the inspection of the Society the dissected parts of a specimen of the octopus, or cuttle-fish, for which he was iudehted to Mr. Aztredo, of this city. He alluded to the terrific but exaggerated description of this animal by Victor Hugo, in his "Toilers of the Sea," who, although considered to be a naturalist, had evidently never viewed the animal he described, and never properly understood the beauty of its physical construction. The Doctor exhibited a number of large and beautiful illustrations of the animal, and proceeded to explain its position in the family of the octopidæ. It is the polypus of the ancients, and the cuttle-fish or devil-fish of modern times. He described the several varieties and produced a smaller specimen which had lately come into his possession; and no one would suppose, on looking at its rather repulsive form, that so much beauty of construction oxisted in such a poor, degraded creature.

Among the curious hahits of this mollusk, the speaker described that by which he propels himself hy continually throwing out jets of water in an opposite direction to that in which he wishes to proceed, and that recently this very method of propelling vessels had heeu put into practical use—the throwing out powerful jets of water from the stern. Dr. Stout, while treating of the inaccuracies and misconceptions of the nature of the animal by Victor Hugo, fully confirmed that author's estimate of the deadly power of the devil-fish, and remarked that the specimen which he was now exhibiting could easily seize upon and destroy a swimmer with whom he might come in contact. The Doctor gavo a long and interesting analysis of the animal, and the thauks of the Society were unanimously voted to him.

Mr. White described a fish of the same character, caught some years since at Victoria, Vancouver's Island, the arms of which were as long as a man's leg, and fourteen feet in length. He added, however, that he had the very best authority for stating that in the South Sea a captured sperm whale threw up in his agony a cuttle-fish, one of whose arms measured twenty-eight feet in length, the fish being nearly sixty feet across.

MOUNT WASHINGTON RAILROAD.—This is now nearly finished. It is three miles long, nearly straight, rises up the mountain at a grade of 1 foot in 5, or 1700 feet to the mile; and the locomotive travels in cogs on a middle rail.

New Mining Advertisements.

Chalk Mountain Blue Gravel Company.—Location of Works: Nevada County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the seventeenth day of August, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No Certificate.	No. shares.	Amount.
E C McComb	50	25	$25 00
P C Lander	48	75	75 00
P C Lander	51	170	150 00
John K Mead	49	50	50 00
Wesley Henderson	67	100	100 00
Albinus Ingle	74	10	10 00

And in accordance with law, and an order of the Board of Trustees, made on the 17th day of August, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, on the twelfth day of October, 1868, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. BUFFINGTON, Secretary.

Office, Room 37 New Merchants' Exchange, California street, San Francisco, sep26

J. X. L. Gold and Silver Mining Company.—Location of Mine: Silver Mountain District, Alpine County, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the twentieth day of August, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Richard Inch	34	40	$60 00
Richard Inch	35	30	45 00
Richard Inch	36	20	30 00
Richard Inch	38	6	9 00
Gomer Evans	355	90	135 00
Mary V Bridges	360	12½	18 75
Thomas Prisk	351	5	7 50
Ann Hogan	176	7	10 50
Edmund Palacho	145	5	7 50
Isaac Ayer	146	4	6 00
Isaac Ayer	338	1	1 50
Wm Sowland	305	5	7 50
Wm Bowland	306	5	7 50
L E Wahlburg	174	10	15 00
L A Wahlburg	277	5	7 50
James Earls	355	9½	14 25
Henry Gardine	188	5	7 50
Henry Jardine	374	3	4 50
Henry Jardine	330	12½	18 75
Henry Jardine	331	5	7 50
H G Blaisdell	247	9¼	14 25
H G Blaisdell	292	15 16	1 40
E B Curtis	265	5	7 50

And in accordance with law, and an order of the Board of Trustees, made on the twentieth day of August, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at their salesrooms, No. 426 Montgomery street, San Francisco, on Wednesday, the seventh day of October, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. CROWNINSHIELD, Secretary.

Office, Pioneer Hall, Montgomery street, up stairs, San Francisco. sep26

Oxford Beta Tunnel and Mining Company, Esmeralda District and County, State of Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the eleventh day of August, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificates.	No. Shares.	Amount.
Geo C Perkins	..97, 98, 99, 100, 101-15 ea	75	$37 50
Ira P Rankin	not issued	100	50 00
M C Kyes	142	7	3 50
M C Kyes	137	3	1 50
A Farnsworth	203, 204-10 ea	20	10 00
A Farnsworth	262	20	10 00
A M S Hennell	213	50	25 00
E Frank Clark	216, 217-10 ea	20	10 00
E Frank Clark	218	5	2 50
S M Hoges	153, 154, 155, 156-10 ea	40	20 00
S M Hoges	206	20	10 00
R P Stickney	228	10	5 00
R P Stickney	247, 248, 249-5 ea	15	7 50
T N Brown	245	5	2 50
J G Medley	255	10	5 00
B S Musom	259	35	17 50
Larkin Smith	251	50	25 00

And in accordance with law, and an order of the Board of Trustees, made on the eleventh day of August, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the sales room of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, Cal., on the twelfth day of October, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

GEO. H. PECK, Secretary.

Office, 212 Clay street, San Francisco. sep26

Mining Notices—Continued.

Bunker Hill Quartz Mining Company. Location of Works: Near Amador, Amador County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of May, 1868, an assessment (No. 8) of ten dollars ($10) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, or to DANIEL PALMER, No. 134 State street, Boston, Massachusetts.

And whereas said assessment was not duly advertised as required by law, and as contemplated by the resolution making the levy, at a subsequent meeting of the Board of Trustees, held September 2d, 1868, it was resolved, that—

Any stock upon which said assessment shall remain unpaid on the sixth day of October, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-sixth day of October, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

WALES L. PALMER, Secretary.

Office, No. 19 First street, San Francisco, California. sep5

Chipioneua Mining Company—District of Ures, Sonora, Mexico.

Notice is hereby given, that at a meeting of the Board Trustees of said Company, held on the seventh day of September, 1868, an assessment of five dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 318 California street, up stairs.

Any stock upon which said assessment shall remain unpaid on the ninth day of October, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-sixth day of October, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LONSE, Secretary.

Office, 318 California street, up-stairs, San Francisco. sep12

BY EXPRESS.—Two cents per copy will be added to our usual rates of subscription (to pay Wells, Fargo & Co's tariff on papers sent by express. If connecting expresses in the interior make additional charges, subscribers must themselves settle the same.

Diamond Copper Mining Company. Location of Rockland District, Ocl Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of February, 1867, an assessment of two ($2) dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, Room 40 Merchants' Exchange Building, California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the seventh day of October, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-sixth day of October, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. A. COOLIDGE, Secretary.

Office, Room 40 Merchants' Exchange Building, California street, San Francisco, Cal. sep12

Kearsarge Mining Company, Kearsarge District, Inyo County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of September, 1868, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 408 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-second day of October, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the tenth day of November, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINGARO, Secretary.

Office, 408 California street, San Francisco. sep19

Nevada County Gold Mining Company, Nevada County, California.

Notice is hereby given to the Stockholders of the Nevada County Gold Mining Company, that a meeting will be held at the office of the Company, No. 9 Merchants' Exchange, California street, San Francisco, on MONDAY, the fifth day of October, 1868, at the hour of 12 o'clock, noon, for the purpose of electing officers, and the transaction of such other business as shall come before the meeting.

[Signed] E. S. CURTIS, } Trustees and
B. WELLMAN, } Stockholders.
WM. NEWTON MEEKS, } Stockholders.
CHAS. BALSEY, }
San Francisco, Sept. 9th, 1868. sep13

North American Wood Preserving Company. Location of Works: San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the third day of September, 1868, an assessment of fifty (50) cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, Room 32 New Merchants' Exchange, California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the fifth day of October, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twenty-seventh day of October, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

WM. S. LAKE, Secretary.

Office, 32 New Merchants' Exchange. sep5

Providence Gold and Silver Mining Company, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of September, 1868, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the seventeenth day of October, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the fifth day of November, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINOTON, Secretary.

Office, Room 37 New Merchants' Exchange, California street, San Francisco. se19

Rattlesnake Gold and Silver Mining Company, Brown's Valley, Yuba County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the seventh day of August, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
E Halphen	45	49	$98 0

And in accordance with law, and an order of the Board of Trustees, made on the seventh day of August, 1868, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the salerooms of J. Middleton & Son, 310 Montgomery street, San Francisco, on the twenty-eighth day of September, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN F. LONSE, Secretary.

Office, 318 California street, San Francisco, Cal. sep12

Silver Sprout Mining Company.—Location of Works and Mines: Kearsarge District, Inyo county, Cal.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the fourth day of August, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Alberding, F H	16, 17, 26	3	$90 00
Coxens & Cleveland	32	1	30 00
Devlin, Bendere & McMillin	not issued	2	60 00
Ollig, John	34, 37	32	960 00
Gray, T C	63	7	210 00
Hearst, George	27	10	300 00
Mott, E S, Jr	82, 83	10	300 00
McMillin, Thos	75	1	30 00
McLaughlin, J W	74	50	1,500 00
Martinez, Ludislao	20	4	120 00
Wingard, A	22, 50, 53	16	480 00

And in accordance with law, and an order of the Board of Trustees, made on the fourth day of August, 1868 so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on the twenty-first day of September, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and exponses of sale.

T. B. WINOARD, Secretary.

Office, 408 California street, San Francisco. sep5

POSTPONEMENT.—The above sale is hereby postponed until Wednesday, the twenty-first day of October, 1868, at the same hour and place. By order of the Board of Trustees.

sep19 T. B. WINOARO, Secretary.

PATENT OFFICE REPORTS, from 1843 to 1847, MECHANICAL are wanted for duplicate copies at this office. Parties having them for sale will please state price, and address DEWEY & CO., Mining and Scientific Press office, San Francisco.

Machinery.

VARNEY'S
PATENT AMALGAMATOR

These Machines Stand Unrivaled.

for rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has everre-quired repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

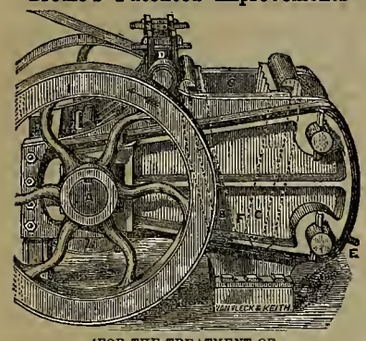
The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved places again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Settlers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Millmen are invited to examine these pans and settlers for themselves, at the **PACIFIC FOUNDRY,**

1v1 San Francisco.

Brodie's Patented Improvements



FOR THE TREATMENT OF

Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:

No. 1—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price.....$600

No. 2—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour..... 850

No. 3—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour..... 1,200

These Crushers have been erected at several mines in the State of Nevada, and others in Calaveras, Tuolumne and Mariposa counties, to whom applicants can be referred as being the most efficient, cheapest, and least weight compatible with strength and durability, of any Crusher yet erected.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.

JAMES BRODIE, Fulton Foundry, or
CHARLES RADCLIFF,
Express Building, 402 Montgomery street,
12v13tf San Francisco.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE
—BY—

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077

3v13f SAN FRANCISCO.



REMOVAL.

E. O. HUNT'S

Manufactory of

Windmills, Horse-Powers and Pumps,

Has been removed from the old stand on Second street, to

114 and 116 Spear st.,

Next above Stuart and south of Mission st, San Francisco.

Hunt's Patent Wind-Mills, Tread Horse-Powers, Sweep Horse-Powers, (for one or four horses), Sawing Machines, Pumps of all kinds for shallow or deep wells,—including Hunt's Submerged Pump, Hunt's Globe Pump, and Hunt's Single and Double-Acting Pump.

Pumping Machines and general Machinery kept constantly on hand and built to order.

Also, Water Tanks of all sizes.

Having put up large new buildings specially for my business, with greatly increased facilities in the way of room and steam power, I shall be able to build everything in my line at greatly reduced rates.

All desirous of procuring water for irrigating or other purposes, are invited to examine my articles before purchasing elsewhere.

2d v16 **E. O. HUNT, Proprietor.**

GLASGOW
Iron and Metal Importing Company

Nos. 25 and 27 Fremont street,

SAN FRANCISCO,

Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings which they offer to the trade on liberal terms.

21v16-3m W. McCRINDLE, Manage.

Fire, Hose and Machine Belting.

THE SUBSCRIBER CONTINUES TO MANUFACTURE Oak Tanned Leather Fire Hose, warranted superior to Eastern Hose, manufactured at the Sixth Street Tannery, San Francisco.

21v16tf JOHN J. FULTON.

C. F. TRAVIS,



Manufacturer of

FRENCH BURR Mill-Stones,

AND

PORTABLE MILLS.

Agent for

Dufour & Co's Celebrated

DUTCH ANCHOR BOLTING CLOTHS.

Mill Picks, Mill Picks Dressed, Mill-Stones Repaired and Rebuilt; Mill Stones Balanced with Fellenbaum's Patent Balance, of which I am sole Proprietor for California, Oregon, and Washington Territory. C. F. TRAVIS.

5v16tf 109 Mission street, San Francisco.

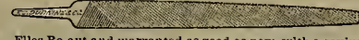
Belting and Lacing.

AN ENTIRELY NEW AND SUPERIOR ARTICLE OF exclusively mechanical preparation, made to order on short notice, and for sale by H. ROYER, at 435 Brannan street, between Third and Fourth. Refers to Eisen Bros., Pioneer Mills; Martin Steen, National Mills; Horace Davis, Golden Gate Mills; also, N. W. Spaulding, Saw Manufacturer. 6v16-3m

PACIFIC FILE WORKS,

No. 53 Beale Street, bet. Market and Mission,

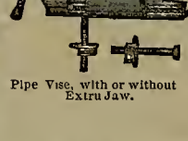
SAN FRANCISCO.



Files Re-cut and warranted as good as new, with a saving of fifty per cent. REAPER AND MOWER SECTIONS MADE TO ORDER. The only establishment on the Coast Orders from the country promptly attended to. ☞ First Premium awarded at the State Fair, 1867.

2v17-3m **T. G. DURNING & CO**





Pipe Vise, with or without Extra Jaw.

Standard Milling Machine.

UNION VISE COMPANY,

OF BOSTON, MASS.

Extra jaw, and heavy Vises, Warranted for heavy work. New style Wood and Covered Screw Vises, forty styles and kinds; Standard Milling Machines, simple, great capacity power and strength—two sizes, large, 2,300 lbs; small, 950 lbs. For sale by the trade.

23v16-1y O. H. NOTT, Pres.

FOR SALE,
BY STANFORD BROS.,

DEVOE'S COAL OIL, PARAFINE OIL, MACHINE OIL, Lard Oil, China Oil, Neats Foot Oil, Sperm Oil, Boiled Linseed Oil, Alcohol, Polar Oil, Tanner's Oil, Elephant Oil, Almacle Oil, Turpentine, Oil Soap, Crude Petroleum, Lamp Stock of all kinds, GASOLINE, Gravity 84. NAPHTHA Gravity 65 and 71. Also, GRANT'S CANDLES, in lots to suit.

10v17-3m

NELSON & DOBLE,

AGENTS FOR

Thomas Firth & Sons' Cast Steel, Files,

Etc., Shear, Spring, German, Plow, Allster and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks,

Stone Cutters', Blacksmiths' and Horse-Shoers' Tools,

319 and 321 Pine Street,

Between Montgomery and Sansome, San Francisco.

fov14qr

J. SWYNEY,
MARINE ENGINEER,

53 Montgomery Block, San Francisco,

Is prepared to furnish General Plans, Specifications, and full detail Drawings for propeller or side-wheel steamers, iron vessels of all classes, engines, boilers, etc. Also for locomotive or stationary engines, and machinery in general. An experience of over twenty years in this profession enables us to furnish correct drawings and guarantee results. 8v17-tf

Notice to Miners,
Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

8v13-1y M. PRAG, Stove Store, No. 125 Clay street, below Davis.

STOCK CERTIFICATES,
STOCK TRANSFER JOURNALS,
STOCK LEDGERS,
ASSESSMENT RECEIPTS,

And all other Blanks, Blank Books, etc., required by Mining and other Corporations, kept on hand or printed to order on short notice, at moderate prices, at the office of the *Mining and Scientific Press.*

[Continued from Page 194.]

CLASS 27.

B. N. Bugbey, for best white wines, gold medal.
J. R. Snyder, for best red wine, silver medal.
Isidor Landsberger, for best sparkling wine, silver medal.
B. D. Wilson, for best California port silver medal.
Kohler & Frohling, for white wine, 1857, diploma.
W. J. Strentzel, for white wine, 1860, diploma.
M. Keller, for white wine, 1862 diploma.
Anaheim Wine Growers' Association, for best white wine, 1863, diploma.
Anaheim Wine Growers' Association, for best white wine, 1864, diploma.
Isidor Landsberger, best white wine, 1865 diploma.
Buena Vista Vinicultural Society, for best white wine, 1866, diploma.
Eberhard & Lachman, for best white wine, 1867, diploma.
J. Landsherger, for red wine, 1865, diploma.
C. F. Leidig, for best red wine, 1866, diploma.
Kohler & Frohling, for port wine, 1857, diploma.
B. D. Wilson & Co., for port wine, 1858, diploma.
B. D. Wilson & Co., for port wine, 1860, diploma.
Kohler & Frohling, for best port wine, 1865, diploma.
B. D. Wilson & Co., for best port wine, 1866, diploma.
M. Keller, for best port wine, 1867, diploma.
Kohler & Frohling, for best angelica, diploma.
Eberhard & Lachman, for best muscatel, diploma.
Eberhard & Lachman, for best sherry wine, diploma.
Eberhard & Lachman, for Malaga wine, diploma.
Kohler & Frohling, for brandy, 1860, diploma.
J. R. Snyder, for brandy, 1864, diploma.
B. N. Bugbey, for brandy, 1866, diploma.
Buena Vista Vinicultural Society, for brandy, 1867, diploma.
Eberhard & Lachman, for best peach brandy, diploma.
L. Gross & Co., (Henly & Co.,) for best cocktail bitters, diploma.
F. & P. J. Cassin, for best brandy bitters, diploma.
M. Keller, for best wine bitters, diploma.
A. Bona, for best punches (Squarza,) diploma.
G. Catperelli, for Ricci's punches, certificate of merit.
S. Marks, for bottled pale ale, diploma.
Bennett & Co., for best bottled porter, diploma.
J. Sejous, for half-and-half, diploma.
Whiting & Berry, for assortment of fine wines and liquors, diploma.
McMillan & Kester, for fine syrups, cordials and extracts, diploma.

CLASS 28.

D. L. Perkins, Oakland, for vegetable seeds, silver medal
Kilburn Bros., Antioch, for seed wheat, diploma.
James Lick, Santa Clara, for castor beans, diploma.
J. C. Puthemus, Los Angeles, for Egyptian wheat, certificate o merit.
R. B. Woodward, for hot-house grapes, special diploma.
W. Cantelow, Vaca valley, for grapes, silver medal.
M. R. Miller, Pleasant valley, for foreign grapes, certificate of merit.
R. Kerchival, Sacramento river, for apples, diploma.
D. L. Perkins, Oakland, for apples and plums, certificate of merit.
James Holland, Sacramento river, for plums and pears, diploma.
T. Hart Hyatt, Redwood City, for best general exhibit of fruits, special diploma.
J. V. Sims, Sacramento river, for peaches, diploma.
Dr. H. Haile, Alameda, for lemons and plums, diploma
S. Runyon, Sacramento river, for pears and peaches, diploma.
B. N. Bugbey, Folsom, for California raisins, diploma.
W. N. Haynie, Sacramento, for hops, growth of 1868, diploma.
E. J. Cummings, for brandy peaches and nectarines, certificate of merit.
Col. Warren, for plants and flowers, certificate of merit.
R. B. Woodward, for tropical fruits and plants, a diploma.
Collie & Stewart, for landscape gardening, special diploma.
J. O'Hara, for trees, plants and shrubs, diploma.
Collie & Stewart, for hardy and tender trees and plants, certificate of merit.
J. O'Hara, for cut flowers, diploma.
Collie & Stewart, for cut flowers, certificate of merit.
James Hutchinson, Oakland, for dahlias, special diploma.
S. Tomar, San Jose, for grafting saw and wax, certificate of merit.

CLASS 29.

California Sugar Refinery, for syrup and refined sugar, silver medal.
San Francisco and Pacific Sugar Refinery, refined sugar, diploma.
Boston Cracker Company, crackers, diploma.
Boston Cracker Bakery, crackers and cakes, certificate of merit.
B. Ackerman, extract of coffee, diploma.
E. J. Cummings, preserved peaches and nectarines, diploma.
John Knolt, California mustard, certificate of merit.
Pioneer Flour Mills, flour and meal, diploma.
Brignardello, Macchiavello & Co., vermicelli and paste, diploma.
Marden & Myrick, ground coffee, diploma.
W. M. Boyd, yeast powders, diploma.
T. Donnelly & Co., yeast powders, certificate of merit.
Ravenna & Ghiradelli, maccaroni and paste, certificate of merit.
H. J. Clayton, salad dressing, diploma.
C. Lewis, Californian olive oil, certificate of merit.
Bernard & Co., ground spices, diploma.
E. F. Barton & Co., saleratus, diploma.
C. Borchard, candy, certificate of merit.
Geo. Haas & Co., candy, diploma.
T. W. McCollium & Co., Alaska codfish, diploma.
E. F. Barton & Co., table salt, diploma.
Crystal Salt Works, coarse salt, diploma.
Holladay & Brenham, table salt etc., certificate of merit.
California Chicory Company, California chicory, diploma.

CLASS 30—SECTION 1.

Joseph Gross, for cigars best made, special diploma.
Julius Morris, for cigars, diploma.
B. C. Horn, for cigars, certificate of merit.
B. C. Horn, for best imported smoking tobacco, (Horn's latest,) diploma.
Parker, Watson & Co., for imported smoking tobacco, (Oliver,) certificate of merit.
Charles G Emery & Co., for best domestic smoking tobacco, (Greenleaf,) diploma.
B. C. Horn, for best fine-cut chewing tobacco, (Horn's best,) diploma.
Parker, Watson & Co., for best display of plug tobacco.
George J. Hobe, for snuff, diploma.
Charles Kohlman, for domestic made pipes, diploma.

CLASS 30—SECTION 2.

Miss M. E. Gerrish, for autumn leaves in wax, silver medal.
Miss M. Blanchard, for wax vase, diploma.
Mrs. J. W. Thomas, for wax fruit and cross, diploma
Mrs. J. B. Hammstead, for wax shells and preserved natural flowers, diploma.
Mrs. J. B. Hammstead, for wax hand and bridal bouquet, certificate of merit.
Mrs. S. J. Hageman, for wax flowers, certificate of merit.
Miss M. Blanchard, for wax flowers and autumn leaves.
Mrs. Benjamin S. Haynes, for wax fruit, certificate merit.
Mrs. J B. Fisk, for wax flowers, certificate of merit.
Mrs. W. C. Wilson, for wax flowers, certificate of merit.
Mrs. J. C. Rogers, for superior work, special certificate of merit.
Miss Alice Schmidt, for wax flowers, certificate of merit.
Mrs. J. E. Warren, for hair work, diploma.
Mrs. L. Schenck, for hair crosses, certificate of merit.
Mrs. D. Le Bar, for hair flowers, certificate of merit.
Mrs. H. E. Bert, for hair flowers, certificate of merit.
Mrs. M. E. Dougherty, for human hair, diploma.
Mrs. C. M. Chapman, for hair rejuvenator, diploma.

CLASS 30—SECTION 3.

E. F. Lorquin, for stuffed birds, special diploma.
Mrs. E. F. Lorquin, for sea moss and shell work, diploma.
Mrs. L. Bigley, for shell tower, diploma.
Mrs. Marianus, for shell frame and sea weed, certificate of merit.
G. Kustel, for galvanized birds and fruit, diploma.
Mrs. W. P. Day, for collection of snells, certificate of merit.
George Bloomer, for collection of shells, certificate of merit.
W. E. Loomis, for collection of curiosities from the Sandwich Islands, certificate of merit.
M. S. Phinney, for engraved walrus tusks and whale teeth, diploma.

CLASS 30—SECTION 4.

E. Hawthorne, for patent fire escape, diploma.
J. W. Nagle, for perfumery, certificate of merit.
Sydney Smith, for fluat in fleet, certificate of merit.
John S. Hittell, for *Resources of California*, diploma.
J. E. Bender, for furniture renovation, diploma.
Meyer & Co., for blanket cleaning, diploma.
H. Olsen, for life preserver, certificate of merit.
L. P. McCarthy, for card castle, certificate of merit.

INVENTORS' DEPARTMENT.

Coffin & Slandish, for steam plow, gold medal.
C. Newman, for glass smelting pot, silver medal.

HIGHEST AWARD.

Pacific Tannery and Boot and Shoe Company, for thorough exhibit of leather and its manufacture from the hide to finest finished work, Institute gold medal.

METHOD OF IMPROVING POOR COAL.—It is stated that a Swiss professor of mineralogy has discovered a means of communicating to the fossil coal which abounds in the valley of the Alps all the qualities of the best fossil English coal. The process employed consists of an inexpensive chemical preparation by which the coal of the Alps is mixed with naphtha and bitumen obtained in large quantities from the Apennines. If experiments now being made are attended with a satisfactory result, one can only augur favorably from this discovery, the financial and economic consequences of which would be very great and important for Italy, which has now to obtain its coal supplies wholly abroad. It may be well to remark that the new process is already employed in France, and that the Carvin Company has made arrangements for the working in the departments of the Nord and the Pas-de-Calais of a patent taken out on the subject.—*Colliery Guardian.*

CAPITAL AND LABOR.—On Saturday evening it was finally resolved, at a meeting of the Drinkfield Iron Company, the shareholders of which are principally ironworkers of the north of England, to turn the undertaking into a cooperative concern. The works, which are at Darlington, where the meeting was held under the presidency of Mr. Spark, have cost something like £10,000, and by this experiment it is sought to find a solution on a small scale of the capital and labor question which has occasioned such bitter strife between employer and employed. The meeting was addressed by Mr. Kane, President of the National Union of Ironworkers, and Mr. M'Donald representing over 20,000 miners. These gentlemen stated that this society would enable the workmen to become acquainted with business matters, and give them, as it were, a technical education. It was agreed that the works should be taken by the cooperative company at a valuation to be made by a competent authority, and every assurance was given that the scheme would be a success.—*Colliery Guardian.*

WHAT THE UNION PACIFIC PROMISES.—The Cheyenne *Star* says the trains going West are taking from seventy-five to a hundred workmen daily, and that there is no doubt but that the road will reach Green River this year. It is now completed to the foot of Elk Mountains. There is a splendid coal bed within half a mile of the track, and the coal is said to be superior to that found in Iowa.

COAL CONTRACT IN THE WILDERNESS.—Large tracts of coal lands have been lately discovered along the line of the Union Pacific road a few miles west of Rock Creek, Wyoming Territory, and one party has a contract to furnish one hundred thousand tons to the railroad. It is coal of a superior quality, and is found within one mile of the main track.

IT is stated that a gold vein varying in width from six inches to one foot, and traceable on the surface for 3,000 feet, has been discovered on the lands of the Hudson River Slate Company, in Duchess County, New York. An assay of the quartz rock taken from this vein shows that it contains $15 45 of gold per ton, besides 20 per cent. of silver.

A PORCUPINE, a rodent quadruped of the genus *Hystrix* of Linnæus, was recently killed at Cherokee, Butte county.

TREATMENT OF ORES SUITABLE FOR CHLORINATION. — The Clorination process is working wonders far and wide. A gentleman who owns a mill and mine over near Placerville informed us a few days since, that after working off the top or decomposed free gold ore, the mine failed to pay expenses and he closed the mill. Some parties from San Francisco came along a few months since and offered a fair price for the use of the property, which he accepted and they in the face of scoffs and jeers from "practical" millmen, employed a young man who had never had anything to do with a mill before, a student fresh from one of the private mining schools of San Francisco, who went to work and put the mill in order and now the same rock that before would not pay six dollars per ton is turning out sixty, and making a splendid profit to all concerned. The chlorination process has proved profitable in every case tried, where there has been a good supply of sulphurets and under good management throughout California, and is to be introduced in Arizona. Preparatory to the introduction of chlorine gas and the subsequent manipulations—which extract 90 to 96 per cent. of all the precious metals contained in the ore—the ore must be roasted, therefore any cheapening of this now expensive operation will be hailed as a benefaction. Cheap and rapid pulverization, concentration, mechanical roasting and chlorination combined, seem to be the "coming plan," which shall make mining permanently profitable.—*Alpine Miner.*

BRIGHAM YOUNG ON MINING.—The Mormon autocrat recently made the following speech to several of the faithful:

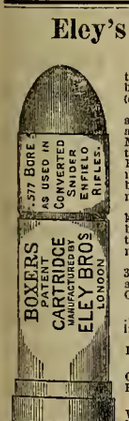
"Gentlemen," said he, "I understand some of you are going to the Pharanagat mines. You are very hopeful, I observe, but you will lose your money; mark my words. The ore is there, true enough; but not one mine in fifty can be profitably worked in America until wages are 25 cents a day, as in Germany, instead of $6 as at your mines, the expense of reducing your ore will swallow up all the revenue and much more. It won't do. What would my community be to-day if it had taken to mining instead of agriculture? Set one hundred men to mining and ten to farming, and at the end of ten years the ten will be worth more than the one hundred, and probably have to feed them gratuitously. You say that it is possible that my views on this subject may he changed. They may be enlarged, and for your sakes I hope they will. But I can only repent my fullest conviction that you are doomed to bitter disappointments and heavy losses."

TIN AND GARNET.—Mr. J. Alden Smith, of the *Register*, who is perfectly reliable as a mineralogist, pronounces the Summit County supposed tin ore an iron garnet, and not in the slightest degree related to tin ore. If it weren't so common, we would say, just as we thought. We did suspect as much.—*Rocky Mountain News, Sept, 2d.*

THE Smith gold mine, in Spottsylvania County, Virginia, containing 100 acres, was recently sold at a trust sale for $1,400. A year or two ago Northern capitalists bought it for $15,000. The boiler used in its working brought $675, and the other machinery $325—aggregating $2,400.

CHILI solicits contributions to a grand Agricultural Fair, to be held April 1st, 1869. This is progress.

Eley's Ammunition.



These Cartridges are made in three sizes, viz., .577 (or Snider Enfield) bore; .500 (or half-inch) bore; and .451 (or small) bore.

These Cartridges have been adopted, after careful comparative trials against all other descriptions, by HER MAJESTY'S WAR DEPARTMENT, as the Standard Rifle Ammunition for the BRITISH ARMY, and are not only used exclusively for the Snider Rifle, but are adapted to all other systems of military BREECH LOADING RIFLES.

They are the cheapest Cartridges known, carrying their own ignition, being made wholly of metal, are water-proof and imperishable in any climate.

Boxer Cartridge Cases (empty), of all 3 sizes, packed with or without bullets, and machine for fastening same in Cartridges.

Makers of BOXER CARTRIDGES, .450 bore for Revolving Pistols, in use in Her Majesty's Navy.

PIN CARTRIDGES for Lefaucheux Revolvers of 12 M, 9 M, and 7 M, bore.

CENTRAL FIRE and PIN FIRE CARTRIDGES, for all sizes of Guns, Rifles and Revolvers.

Double Water-Proof and E. B. Caps. Wire Cartridges for killing game at long distances. Felt Waddings to improve the shooting of guns; and every description of Sporting and Military Ammunition.

Wholesale only.

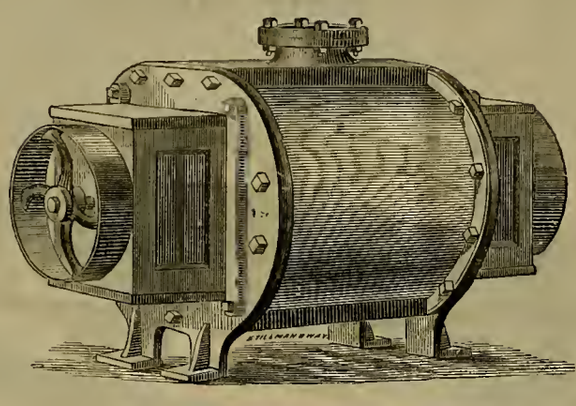
ELEY BROTHERS,
Gray's Inn Road, London, W. C.

18v16eowly

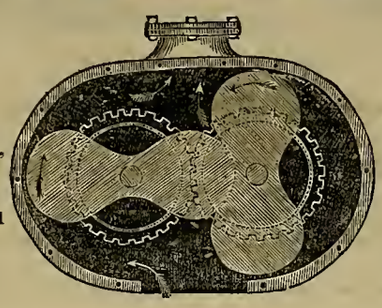
ROOT'S PATENT FORCE BLAST ROTARY BLOWER.

Patented Nov. 1st, 1864; July 24, 1866; and Oct. 9, 1866.

Awarded the First Premium at the Paris Exposition.



ADAPTED FOR **Smelting, Foundry, Mining and Steamships.**



REQUIRES **Fifty Per Cent.** LESS POWER **Than any Blower** Now in use.

One of these Blowers may be seen on exhibition at W. T. Garratt's Brass Foundry, corner of Mission and Fremont streets. They are also in use at the Almaden Quicksilver Mine; Gridley's Foundry, Gold Hill, Nevada; Ætna Iron Works, San Francisco, and many other places.

CAUTION.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.

For circulars and further information, address

KEEP, BLAKE & CO.,
Globe Iron Works, Stockton, Cal.

4v16 3m

MEUSSDORFFER,
HAT MANUFACTURER
And dealer in
Hats and Caps
AT WHOLESALE AND RETAIL.

635 and 637 Commercial street.....San Francisco.
125 J street.....Sacramento.
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72 Front street.....Portland, Oregon.

Our wholesale House, 623 Commercial street, extending through to 637 Clay street, San Francisco, contains always a most choice, and the largest, assortment in this State. Every Steamer brings the latest issued novelties from Europe and New York, which can be found at all the above stores, at moderate prices. 23v16-3m

New Potato Digger.

Parties interested in saving considerable time and money by using the

PACIFIC
POTATO DIGGER AND SACKER,

Should not delay the present opportunity of having one in time for the late Potato crop this season.

☞ Liberal terms to Farmers' clubs ordering more than one. This arrangement secures to members in rotation the great benefit of a machine, and materially reduces their outlay. A Potato Digger of this kind is sufficiently strong for general ranch purposes, and will dig, clean and separate, according to sizes, and sack six to seven acres of potatoes daily, besides the important saving of so much time, and at less than half the cost of the present expensive and dilatory method by hand.

It would require one man from forty to fifty days to accomplish the same amount of work.

A WORKING MODEL may be seen from 11 to 12 and from 1 till 5 o'clock daily, in operation until the 10th of October, at Risdon's Machine Works, corner of Beale and Howard streets, San Francisco.

12v17-1m

OIL STOVES!

MORRILL'S
Petroleum and Universal Oil Stoves

Have proved themselves a superior substitute for Wood and Coal Stoves, in that they work quicker, are neater, bake and broil better, are MORE ECONOMICAL generally. They are portable, can be used in any room, with or without chimney, as they emit no smoke, soot or ashes. There are nine different sizes, designed for barbers, dentists, and other mechanical purposes—as well as for cooking. They are perfectly safe.

I now offer a reward of **$100** for every Petroleum Stove exploded by Naphtha delivered at my store, 18 Geary street, where they are for sale by

M. B. BULLARD,
Proprietor of Petroleum Stove for California, and Agent for Universal Oil Stove for Pacific Coast.

N. B.—Petroleum Stoves burn Naphtha converted into a gas. Universal Oil Stoves burn Naphtha, Benzine, or Coal Oil, with non-illuminating flame and light on a wick as easy as a lamp. 21v16 3m

Heuston, Hastings & Co.,
ARE THE
Fashionable Clothiers
OF
San Francisco.

SPECIALTIES.
PRICE AND GUARANTEE.

The largest and most varied stock of Gentlemen's Clothing, Furnishing Goods, Trunks, Bags and Valises, on the Pacific Coast. Every article sold, being of our own manufacture, is guaranteed. Having contracts direct with European and American manufacturers of piece goods, we thereby effect a saving of fully 50 per cent. in wholesale dealers' profits, and are thus able to offer superior goods at less than second-rate prices.

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Having agents in London and Paris, we introduce the new styles in San Francisco simultaneously with their appearance in New York.

GOODS MADE TO ORDER.

For the accommodation of such as may desire, we have secured the services of a celebrated European cutter, and are prepared to make up piece goods in a style superior to any other house on the coast. Shirts, Ties, Collars, etc. made to order at short notice.

COUNTRY ORDERS.

Goods forwarded by Express to any part of the Pacific Coast on receipt of orders and measures; send for directions for measurement.

Heuston, Hastings & Co.,
Lick House Block,
San Francisco.
5v17-8m

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Metallurgists and Assayers.

Gold and Silver Bullion Assayed.

MINERAL ASSAYS & ANALYSIS MADE.

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METALLURGISTS.

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SIMMONS, ROWE & CO., Agents
Corner Pine and Sansome Streets, San Francisco.

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Also, Antifriction, Alloys for Journals, Type and Stamping Metals, Tinners' and Plumbers' Solder, etc., etc.
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IMPORTERS,
AND DEALERS IN
ASSAYERS' MATERIALS,
Druggists' & Chemists' Glassware
Photographic Stock, Etc.
512 and 514 Washington Street,
SAN FRANCISCO.

WE are receiving direct from MESSRS. LADD & OERTLING (London) and BEEKER & SONS (Antwerp, Belgium) their superior

ASSAY AND BULLION BALANCES,

And from France and Germany, as well as the Eastern States, FURNACES, CRUCIBLES, MUFFLES, BLOW-PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, etc. We have given this branch of our business particular attention, to select such articles as are necessary in the development of the mineral wealth of this coast.

A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' SUNDRIES, ACIDS and CHEMICALS, constantly on hand.

San Francisco March 6, 1865. 11v10-tf

PROF. HENRY WURTZ,

Formerly Chemical Examiner in the U. S. Patent Office, may be employed professionally as a SCIENTIFIC EXPERT. Geological Examinations and Reports, Analysis and Assays, etc., etc. Practical advice and investigations in the Chemical Arts and Manufactures. Invention and examination of new chemical methods and products. Address, 26 Pine street, Rooms 35 and 36, New York. Always in from 12 to 3.30. ☞ Written communications preferred.

Important to Gold and Silver Miners and Companies.

PROFESSOR WURTZ,

Who is the Inventor and Patentee of the new and wonderful uses of SODIUM IN WORKING GOLD AND SILVER ORES AND JEWELERS' SWEEPINGS, will furnish at the above address information in relation thereto, together with experimental packages of

SODIUM AMALGAM.

All instructions and experiments elsewhere obtained are spurious and unreliable. WORKING EXPERIMENTS ON AMALGAMATION OF ORES, Etc. Prof. W. has in operation in New York a large and small Hepburn Pan, for working 1,000 or 20-lb. charges of material for experimental purposes. 3v17

G. W. STRONG,
ASSAYER AND WORKER OF ORES,

No. 10 Stevenson street, near First, San Francisco.

Highest price paid for choice lots of Ores, Sulphurets, Assay Ashes, Sweepings, etc., etc. Students instructed in all branches of Metallurgy, on liberal terms. 14v15qr.

JOHN PERRY,
MANUFACTURER OF
Cocoanut Matting, Rugs, Mats, Etc.
And Cocoanut Fiber for Upholstery.

South side Chestnut street, bet. Polk and Larkin streets,
SAN FRANCISCO.

BY A PROCESS ENTIRELY NEW, THE PROPRIETOR is now manufacturing in quantity sufficient to supply the demands of the trade, A NEW AND SUPERIOR MATERIAL FROM THE FIBER OF THE COCOANUT—the best substitute for curled hair hitherto discovered—for mattresses, chairs, lounges, and all upholstering purposes. The following are some of the advantages which it possesses over all other materials used for the above named purposes:

1st. It is cheaper, all things considered, than most articles in use.

2d. It is the best and purest material known in the market, being entirely free from all offensive smell.

3d. It is the most durable, not being subject to rot after years of exposure to moisture and dampness.

4th. It is remarkable for its elasticity, rivaling, in this respect, the finest curled hair.

5th. It contains nothing to breed vermin or support insect life, being entirely freed in process of preparation from all deleterious vegetable matter.

Lastly. It does not pack; is free from dust; much lighter, and in general obviates all the objections to palm, prepared shavings, soap root, and other inferior substitutes for feathers and hair. 22v16-6m

$100 A MONTH SALARY WILL BE PAID FOR Agents, male or female, in a new, pleasant, permanent business. Full particulars FREE by return mail, of sample, retailing at $4 50, for 50 cents. A. D. BOWMAN & CO., No. 4 Broad street, New York.
[Cut out and return this notice. 6v17-7t

THE MINING AND SCIENTIFIC PRESS, which commenced its seventeenth volume on the 4th, comes to us with a newly engraved head, and presenting otherwise its usual tasteful appearance. We take this occasion to say that the PRESS is one of the best papers of the kind in the United States, and every miner and mechanic in the State, as well as the business man, who would keep posted on our industrial resources, should have its name on its subscription books.—*Nevada Gazette.*

UNIVERSITY COLLEGE.—Messrs. Williams & Son, architects, are progressing with the erection of the University Mound, beyond Bay View. The location is about five miles from the City Hall. The building is of frame, and will have a frontage of ninety-six feet, with a depth of eighty-five feet. The style is modern Gothic. It will form a complete building of itself, but it is intended in future days to add to its dimensions. The entire structure is now ready for plastering, and when completed will cost $20,000. The institution is intended to board and educate students, and is provided with spacious class, dining, sleeping and bath rooms. When ready for occupation, it is understood the College on Stockton street, near Geary, will be discontinued, and the students will afterward pursue their studies at University Mound.

THE earthquake in South America was felt all around the Pacific. By the steamer from China and Japan we have intelligence that a great tidal wave was observed at Yokohama, at three o'clock in the afternoon of August 15th, two days after the shocks began in Peru.

A BRICK chimney, one hundred feet high, in Worcester, Massachusetts, has been moved 400 feet, without stays or tops.

NOTICE.—Persons interested in locating Mineral Lands in California or Nevada, will do well to observe the advertisement of N. Wescoatt, S. & M. E., in another column.

LEA & PERRINS'
Worcestershire Sauce,
For sale by all the
PRINCIPAL JOBBERS AND GROCERS.
13v17-3m

SULPHURETS;
What they are;
How Assayed;
How Concentrated;
And How Worked;
With a Chapter on the
BLOW-PIPE ASSAY OF MINERALS.
By WM. BARSTOW, M. D.
Published by A. Roman & Co., San Francisco.
For sale at this Office.—Price, One Dollar.
With the aid of this Book, the miner can assay his own ores, requiring but few materials, etc., except such as are generally to be found in the interior towns. 21v15tf

AMERICAN
(WALTHAM)
WATCHES,
THE BEST! THE CHEAPEST!

The extensive use of these Watches by Railway Conductors, Engineers and Expressmen, the most exacting class of watch wearers, has thoroughly demonstrated the strength, steadiness, durability and accuracy of the Waltham Watch. To satisfy that class in all these respects is to decide the question as to the real value of these timekeepers.

More than 300,000 are thus speaking for themselves in the pockets of the people.

Imported watches are made on an expensive system, in small numbers, but by numerous makers, and are placed in the market here by an importer, who first secures a MONOPOLY OF SALE OF SOME ONE MANUFACTURE.

To the manufacturer's profit must be added the cost of importation.

A custom-house duty of twenty-five per cent. payable in gold.

A profit of at least twenty-five per cent. to the importer a nother to the jobber, thus doubling the cost of the Imported Watch.

At Waltham, Watches are manufactured on a large scale under one roof and system of supervision and management, thereby saving many of the expenses necessarily incurred in small establishments,—hence their great cheapness.

All respectable dealers now sell Waltham Watches, and competition, as the world knows, is favorable to small profits. The trade is satisfied, because, though the profit on each watch is small, the demand is large and all are saleable.

Unscrupulous importers occasionally place a worthless Swiss imitation in the market. To avoid imposition, the purchaser should invariably demand a certificate of genuineness, signed by R. E. Robbins.

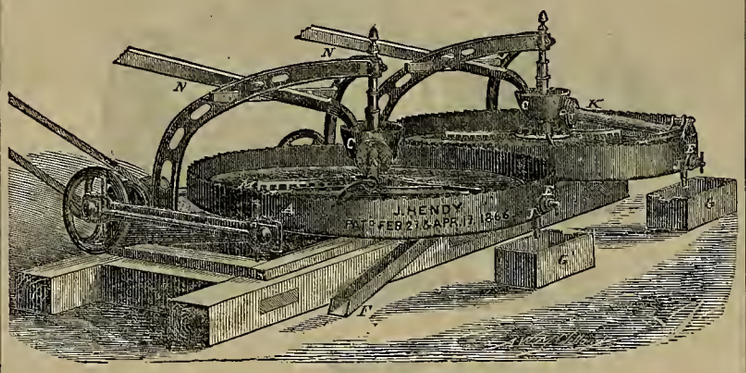
There are different grades of finish in the different varieties of Watches made by the Waltham Company, as there are different sizes and shapes to suit all tastes and means; but every Watch that bears the genuine trade-mark of "Waltham," is guaranteed to be a good one, and nobody need be afraid to buy it.

Every Watch Fully Warranted.

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AGENTS,
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PREMIUM FOR BEST CONCENTRATOR
AWARDED BY THE
MECHANICS' INSTITUTE, 1868,
To J. HENDY.



A LARGE NUMBER OF THESE
IMPROVED CONCENTRATORS
ARE IN PRACTICAL USE ON THE PACIFIC COAST.

MR. HENDY, by diligent and practical application, has improved his Concentrators until they now stand unrivalled, far in advance of any yet brought to public notice.

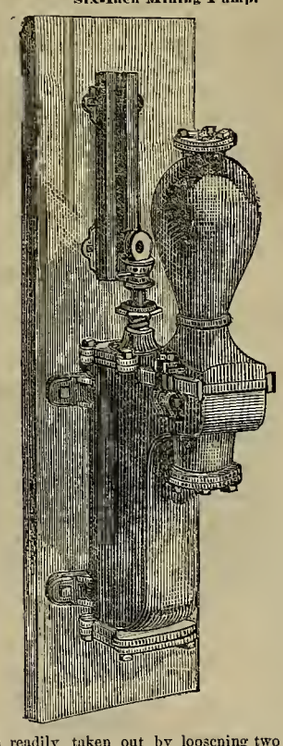
By recent alterations in the patterns for these machines, they are now made
Stronger and more Durable than Ever.

THESE CONCENTRATORS can be seen in operation at the UNION IRON WORKS, corner of Front and Missiou streets, San Francisco.

J. HENDY, Patentee.
13v17tf

HANSBROW'S CHALLENGE
Deep-Well, Mining and Double-Cylinder Patent Pumps.

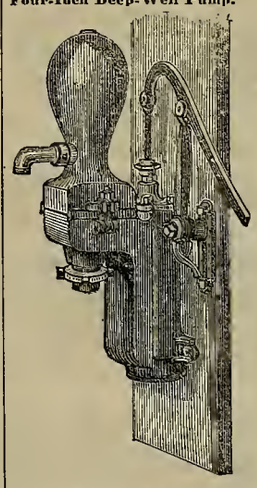
Six-Inch Mining Pump.



These Pumps combine all the advantages of the common Lift and the Double-Acting Suction and Force Pumps, and are equally fitted for all—Household, Farm, Mill, Manufactory, Brewery, Ship, Railway, Mining, and other purposes, and are especially recommended on account of their lightness, compactness, durability, cheapness, and the facility with which they can be placed in any position.

They are adapted for Hand, Steam, Horse, Water, or Wind Power. They are more durable in all their parts than any other Pumps of the same power.

Four-Inch Deep-Well Pump.



The Valves are of the simplest construction, and can be readily taken out by loosening two common nuts. They are not liable to get out of order, and can at all times be removed without the aid of a skillful mechanic.

The lower valves of these Pumps work upon inclined seats, which prevents sand or other matter that the Pumps may take up, from remaining under the valves, or stopping the flow of water.

These Pumps are worked with less friction, and consequently require less power than any other Double-Acting Pumps of equal capacity.

All sizes, from 2-inch to 8-inch Cylinder, manufactured by the Pacific Iron Works, GODDARD & CO., and for sale by the Agents,
☞ Send for a descriptive Circular.

LOCKE & MONTAGUE,
112 and 114 Battery Street, San Francisco.

W. T. GARRATT,
City
BRASS AND BELL FOUNDER



Cor. Mission and Fremont sts.,
SAN FRANCISCO.
Manufacturer of Brass, Zinc, and Anti-Friction or
Babbet Metal Castings:
CHURCH AND STEAMBOAT
BELLS,
TAVERN AND HAND BELLS AND GONGS,
FIRE ENGINES, FORCE AND LIFT PUMPS,
Steam, Liquor, Soda Oil, Water and Flange Cocks, and Valves of all descriptions, made and repaired. Hose and all other Joints, Spelter, Solder, and Copper Rivets, &c. Gauge Cocks, Cylinder Cocks, Oil Globes, Steam Whistles,
HYDRAULIC PIPES AND NOZZELS
For Mining purposes, Iron Steam Pipe furnished with Fittings, &c. Coupling Joints of all sizes. Particular attention paid to Distillery Work. Manufacturer of "Garratt's Patent Improved Journal Metal."
☞ Highest Market price paid for OLD BELLS, COPPER AND BRASS. ☜ 6tf

Sheffield Scientific School
Of Yale College, New Haven, Conn.

This department of Yale College, instituted in 1840, and endowed with the National Land Grant in 1866, furnishes advanced instruction in the various branches of Mathematical, Physical, and Natural Science.

The School is under the direction of the President of the College, a Board of thirteen Professors in different specialties, and six assistant instructors.

Regular courses of study, leading to the degree of Bachelor of Philosophy, conferred by Yale College, are arranged as follows: 1—CHEMISTRY AND MINERALOGY. 2—CIVIL ENGINEERING 3—MECHANICAL ENGINEERING 4—MINING ENGINEERING AND METALLURGY. 5—AGRICULTURE. 6—NATURAL HISTORY AND GEOLOGY, and 7—SELECT COURSE.

Advanced students are also admitted to optional courses, and if already College graduates, are received as candidates for the degree of Doctor of Philosophy.

Tuition, $125 per year of forty weeks.

The Libraries, Museums, Laboratories and Apparatus, accessible to students, are various and expensive.

For copies of the Annual Circular and Report, letters may be addressed to the "Secretary of the Sheffield Scientific School," New Haven, Conn. 13v6-1y16p



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Saw Smithing and Repairing
ESTABLISHMENT.



Nos. 17 and 19 Fremont St., near Market.
MANUFACTURER OF
SPAULDING'S
Patent Tooth Circular Saws.
They have proved themselves to be the most durable and economical Saws in the World.
EACH SAW IS WARRANTED IN EVERY RESPECT.
Particular attention paid to construction of
Portable & Stationary Saw Mills.
MILLS FURNISHED AT SHORT NOTICE,
At the lowest Market Prices

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W. E. LOOMIS,
News Dealer
AND STATIONER,
Southeast corner Sansome and Washington streets,
SUPPLIES ALL
EASTERN PERIODICALS
By the Year, Month or Number



DUDGEON'S
PATENT
HYDRAULIC LIFTING-JACKS
—AND—
BOILER PUNCHES,
Eighth street, cor. Minna,
SAN FRANCISCO.
14v16-6m16p

Mechanical Drawings.
Persons wishing Mechanical Drawings can obtain the services of competent draughtsmen, by applying to this office.

MINING AND SCIENTIFIC PRESS.

Subscription, $3 Per Annum. Single Copies, 15 Cents.

A Journal of Useful Arts, Science, and Mining and Mechanical Progress.

BY DEWEY & CO., Patent Solicitors.

SAN FRANCISCO, SATURDAY, OCTOBER 3, 1868.

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Discovery of Rich Quartz Veins in New Zealand
Notices to Correspondents.
New Incorporations.

MECHANICAL MISCELLANY—Elastic Coupling for Ropes or Chains; New Reversible Plow; Bridge Building Extraordinary; Wooden Parasols.

SCIENTIFIC MISCELLANY—The Stereoscope and the Bessemer Process; Polish from Wood; Method of Extracting Copper; Spontaneous Combustion; Meerschaum from potatoes; An Electrical Organ.

MINING SUMMARY—Comprising late intelligence from the various counties and districts in California, Arizona, Colorado, Idaho, Montana, Nevada, Oregon, and Wyoming.

San Francisco Mining Shareholders' Directory.

New Patents and Inventions.

San Francisco Market Rates, Stock Prices—Bid and Asked.

Exploration of the Interior of Russian America.

Some account was given in our last number of the explorations of Mr. W. H. Dall in the territory of the Youkon River, Russian America, or Alaska as it is to be called hereafter. We are now able to add some of the results of Mr. Dall's laborious journeyings in that country, which will be received with favor as additional contributions to geographical science.

Other attachés of the Western Union Telegraph Expedition—which proved a failure as to construction, but none the less a historical success in having added Alaska, and possibly the veritable North Pole, to our dominions—have likewise furnished data concerning that country. The best obtainable maps of Alaska are Lloyd's new wall map of the United States, (1867) in which the route of the proposed telegraph is laid down, and Britton's map, engraved recently for Gen. Halleck, containing all the notes of the Telegraph Company; and in recent numbers of the *London Illustrated News*, Mr. Whymper, the artist of the expedition, has furnished a series of interesting sketches from the Lower Youkon Territory, several of which have been copied in the last number of *Harper's Weekly*.

THE COUNTRY EXPLORED.

To distinguish this far Northwestern country from Sitka—a thousand miles nearer to us and on the southern side of the mountains forming the backbone of Alaska—it is named, after the great river which flows through it, as the Youkon Territory.

The line of explorations carried on was, especially from the mouth of the Youkon to the junction of that river with the Porcupine; the coast from its mouth to seventy-five miles north of St. Michael's (1) and thence to the Youkon, across a portage of perhaps seventy-five miles, more or less, in length. Also, as careful an examination as possible was made of the various sloughs or divisions of the river itself; particularly one, a slough of fifty miles in length, called the Shageluk Slough (12).

GEOGRAPHICAL ERRORS.

In an article on the geography of Youkon Territory it is first necessary to correct a few very old and flagrant errors. 1st. In most atlases we find a large river, named the Colville, (11) emptying into the Arctic Ocean. This is an error. It is an insignificant stream of no length worth mentioning. 2d. The coast between Cape Romanzoff (14) and the head of Norton Sound (b) is laid down with gross errors and is utterly unreliable even in the best charts. 3d. The Esquimaux name of one small mouth of the Youkon Delta is Kwichpak (a). This name is erroneously applied to the whole river, on which for a thousand miles the Indians call themselves the Youkonicatana, or "Men of the Youkon." 4th. The general course of the river, when laid down at all, is much too far to the south and west, except near the mouth. The junction of the Porcupine and Youkon is near the boundary line, a little north of the Arctic Circle. There is one large river which has been confounded with the Youkon, emptying into the Youkon



EXPLANATION OF DIAGRAM.—a, Kwichpak River. b, Norton Sound. 1, St. Michael's Island. 2, Grantley Harbor. 3, Plover Bay. 4, Behring Straits. 5, Kotelkargut River. 6. Nulato. 7, Nuklukahyet and junction of the Tanana River. 8, Fort Youkon. 9, Russia Mission. 10, Andreoffsky. 11, Colville River. 12, Shakeluk Slough. 13, Kolmakoffsky Redoubt on the Kuskoquin River, and portage to the Mission. 14, Cape Romanzoff. 15, Mt. St. Elias. 16, Nushergak Lake and Chulitna River. 17, Koyonkuk Mountain. 18, Kusillvak Mountain. 19, Country of the Mahlemuts.

half-way between the English Fort and the Russian Fort, called by the natives the Tanana, or River of Mountains.

FORTS.

The Russians have posts at the head of Bristol Bay; at Nulato, (6) St. Michael's, (1) Andreaffsky, (10) and the Mission, (9); also one at Unalakleet, (16) and a solitary house at the mouth of the river. There are no more in the Youkon Territory. The Hudson Bay Company has one post at the mouth of the Porcupine River, some fifty miles west of the boundary, which is called Fort Youkon (8).

MOUNTAINS AND TOPOGRAPHY.

There are no high mountains north of the backbone of the Peninsula—the range which almost skirts the southern coast—except a short, isolated chain, containing some seven peaks, which is visible in a northwesterly direction from Fort Youkon, (8) trending in the same general direction. These are the only mountains in Youkon Territory that have snow upon them throughout the summer.

There are two isolated mountains noted as landmarks on the Youkon River; one of them is just above Nulato, (17) and is called by the Russians Koyoukuk Sopka, or "Volcano-like Mountain;" it is not very high—about 5,000 feet—but a marked feature nevertheless in going up the river; and the other is as great a landmark for the Lower Youkon as that just named is for the Upper, being situated at the lower bend (18) and called the Kusillvak "Gora," or Mountain; it is about 6,500 feet in height. The rest of the mountains are mere hills that cannot be distinguished from one another.

The country in general cannot be called either marshy or mountainous; it is a mixture of marsh and low, rolling, rocky hills, covered with moss and with very little earth, except in the valleys, which are always very wet in summer; and it is wet then even on the tops of the mountains. Leading characteristics of the country are, that it is wet and foggy.

VEGETATION.

On the coasts there is scarcely any trace of vegetation whatever. As the traveler advances inland, particularly along the small rivers and up the valley of the Youkon, he soon comes to a very densely wooded country. The trees are of medium size, and are white spruce, willow, poplar, and birch, preponderating in the order named; the diameter ranging from eight inches to two and a half feet, a very common average being one and a half feet. A strip of about one hundred miles only, along the coast, is bare. Grasses grow in the interior in great profusion and to a luxuriant height. Vegetables cannot be raised, except turnips, radishes, and lettuce. Potatoes grow to about the size of a pea. At Fort Youkon they live on moose meat chiefly

ANIMALS.

Along the coast the principal animal is the reindeer, the same species as in Lapland. It frequents the hilly country, but at certain seasons descends into the plains. The moose frequent the low country in the interior, and are never found in the mountains. On going up the Youkon they are not found until after passing the great bend at Nulato (17). Towards the mountains eastward from Fort Youkon, (8) the mountain goat is found; besides which there are found throughout the Territory the black, red and brown bear; the black, red, gray, blue and white fox; the mink, otter, martin, muskrat, Arctic hare and Arctic rabbit. Ermine are scarce. Eskimaux dogs, like those at the City Gardens, are used to draw sleds.

BIRDS.

Aquatic fowl are common on the coast, of every description under the sun, and some of them go up the rivers, marking different zones. In spring there is always a great accession of water fowl. The land birds are chiefly summer birds, and there are some species that remain during the winter, as the pine grosbeak, the red-poll, woodpeckers and crows. There are three kinds of grouse, the black, white and gray, and various hawks, which remain in the winter.

INSECTS.

Insects are rare, except mosquitos, which make up for the rest in more than tropical profusion, lasting from the middle of May till the end of July. A cubic yard of them would weigh two or three pounds; they can not be scared, and will go through fire and water. One's lap is soon full of dead mosquitos. It is impossible to live without wearing nets.

TEMPERATURE.

The temperature is most severe in December, January, and the first part of February. It varies all the way from zero to 69° Fah., below. There are sometimes warm days, and occasionally there are winters when the average cold is not very intense; but the cold winters are the most pleasant and healthy, and better adapted to traveling, because then there is not so much snow. In warm winters, like the last, it is rainy and damp, and very many of the Indians die. It is colder in the interior than on the coast, but the winds make it more inhospitable. At Fort Youkon it is 30° colder, at least, than at the mouth of the river. In summer it is cooler on the coast, and hotter in the interior.

INSTRUMENTAL OBSERVATIONS

were restricted to the use of the compass, thermometer and barometer. The Youkon was surveyed by bearings without making corrections on the spot for the variation of the needle, which was found in some places to be as much as 23° from the north star. The distances were estimated by the rate of paddling, and corrected on coming down by the rate of the current, which averaged 3½ knots an hour.

No observations were taken for latitude, but the approximate latitude of Fort Youkon (8) was ascertained to be near the Arctic Circle, or a very little above it, by the circumstances that the sun does not rise above the horizon except with the Arctic Circle, on the shortest day at midnight; and at Fort Youkon it remains above the horizon all night at that time for a few days.

Interesting notes concerning the Indians and their relationship with Asia, and conveying a good idea of the geology and mineralogy of the country, are necessarily laid aside till next week.

Communications.

In this Department we invite the free discussion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Earthquakes--their Causes and Periodicity.

Editors Press:—It must be admitted that earthquakes are the result of mechanical action in the earth's crust, while adjusting itself to tho ever shriuking molten mass it eontains. From the following facts and considerations, it seems that there is another force arising from a slight annual tidal motion of the molteu interior due to the combined attraction of the sun and moon, which to some extent controls the mechanical action above referred to. Dr. Robinson has reported to the British Association that "He found the entire mass of the hill on whieh the Armagh Observatory is erected, to be slightly, but to an astronomer, perceptibly tilted or canted, at one season of the year to the east, and at another season to the west." And what is moro startling to the astronomical world, the Greenwich transit iustrument, the very Ark of the Covenaut of scientific certainty itself, has wavered. The High Priest of that *sanctum sanctorum* of scieuce, Prof. Airey, the astronomer royal, makes the alarming confession, as follows: "While the construction of this instrument, and the modes of observation with it, have given a warrantee such as the world never possessed before, there havo been instauces where the azimuth of the iustrument, greatly to the surprise of the astronomer, *has varied four seconds*, as determined by the opposite passages of the Polar Star." Mr. Airey has no other way of explaining this than by the supposition "that the sound and firmest earth itself is in motiou."

If we refer this oscillation of the earth's crust to the annual tidal motion of the molten interior, due to the combined attractiou of sun and moon, it should follow that the periods of the greatest volcanic disturbance would be at the ebb and flow of such tide. Humboldt says: "Numerical iuquiries of the distribution of earthquakes throughout the course of the year, such as those of Von Hoff, Peter Merian, and Friedrich Hoffman, bear testimony to their frequency at the periods of the equinoxes." They should also be most frequent at or near the period of the conjunction of the sun and moon, or when the lifting force of the tidal waves approach each other, between the last quarter and new moon. So far as I have determined, such seems to be the fact. Then earthquakes should occur most frequently iu the daytime, within a few hours after tho sun passes the meridian—and such also seems to be the fact,

The frequent auuual earthquakes are due to the tidal motion of the molten interior, which causes a slight variation in the crust of the earth, while the destructive earthquakes are due to the gradual sinking of the molten mass, and occur after lengthened periods of time, wheu the earth's crust is incapable of longer resisting the immenso lateral pressure. It is not improbable that when the laws which govern volcauic action are better uuderstood, and a proper series of observations instituted, that distinctive earthquakes may be foretold, and thus be disarmed of their terrors. Humboldt say: "Lima is frequently visited by earthquakes, and several times the city has been reduced to a mass of ruins. At an average forty-five shocks may he counted on in a year, most of whieh occur in the latter part of October, iu November, December, January, May and June. Long habit and the very prevalent opinion that dangerous shocks are to be apprehended only two or three tiues in the course of a century, cause tho faint oscillations of the soil to be regarded in Lima with scarcely more attentiou than a hailstorm in the temperate zone. Experience gives reason to expect the visitation of two desolating earthquakes in a century. The period between the two is from forty to sixty years. The most considerable catastrophes experienced in Lima since Europeans have visited the west coast of South America, happened in the years 1586, 1630, 1687, 1713, 1746, 1806," and uow again iu 1868. Now that the period of destructive earthquakes has again arrived, it is the part of wisdom for the inhabitants residing along the liues of disturbance where such shocks have been kuowu to occur, to adopt all tho known means of safety wbich are practicable.

In early geological periods, when the crust of the earth was thiuner, and had less power of resistance, there must have been a *daily* tidal motion of the mass within, which gave a longitudinal direction to the corrugation and folding of the rocks, as is exhibited in the early formed slates and the existiug mountain ranges.

F. A. Herring.

[Written for the Mining and Scientific Press.]

Smelting Operations in Owen's Valley.

Editors Press:—I have just received from Mr. P. Desormeaux, whose card find enclosed, a report of the first attempt at smelting, on a large scale, in the Cerro Gordo District.

The most important result of this trial, has been to iudicate the improvements which are required. Operations will be continued immediately, and Mr. Desormeaux is confident of obtaiuing much better results. The amount of silver contained iu the ore treated is not given. I inclose the original, and my translation thereof.

The furnace of Belshaw & Elder, is now ready to commence, and two others, and smaller ones, are now in operation; results not yet known, In addition to these, several small furnaces are being operated by Mexicans and Chilenos, who indeed are tho only persons thus far, who have achieved any success in this valley.

The want of tbe Cerro Gordo District is capital, and I must say I bave never before seen so rich a couutry so neglected as this.

I will take this occasion to correct an error which appears to have found its way to the public mind in San Francisco, namely, that the small bars of silvor which appear from time to time in your city, stamped with my name, and that of Lone Pine, my present place of residence, are the product of the Kearsarge mines. Every silver bar bearing my stamp, up to this time, *came from the Cerro Gordo*, and was smelted out by the Mexicans or Chilenos, in their rude furnaces. The greater portion of the gold in these bars came from the Coso District, and is also the produce of Spanish labor and enterprise.

The Cerro Gordo bullion usually contains ouly from one to three cents of gold to the ounce. It is also an error to suppose that the ores of this district cannot be milled. On the contrary tbere is a large quantity of good milling ore to bc had, which cannot be profitably smelted, and a great deal which can be treated either way, but I am satisfied, with a great advantage on the side of milling. This class includes *all the richest silver ores**, to which lead ore must be added in the smelting furnace. A portion of the mill ores or "*metal de pie*" would require roasting, while others can be better treated without.

There is also a splendid opening for a small mill, say ten stamps, in the Hot Spring District, Mono County, which I visited last summer—another neglected spot.

The fact is the whole of Owen's Valley lies under the ban of San Francisco capitalists, simply because tbo works heretofore put up, have beeu either located where there were uo miues to justify the outlay, or they have failed to adopt suitable means for the extraction of the precious metals, as was the case with the Silver Sprout Co. last year, who, having now put up a roasting furnace, need only make proper use of it to *insure* the successful working of their ores.

But to all who may contemplate putting up mills in Owen's Valley, I say *beware of puns!* If it were not too much like an advertisement I would add, for further information, apply to the undersigned. The method which is best adapted to the treatment of the milling ores, not only of this valley but of the Comstock lode, and probably of Reese Rivor and other districts, is one that is *nowhere practiced on this coast*, nor probably, in tbe form which I contemplate, anywhere else. I await my opportunity to introduce it.

Mr, Desormeaux's report is as follows: In 60 hours of good work I smelted in my furnace 20 tons of a mixture *(lit-de-fusion)* containiug seven tons of ore, the rest beiug flux. The 20 tons produced 11,331 pounds of lead.

The expenses of smelting the 20 tons of mixture are as follows:

Labor	$150 00
Five tons charcoal, at 30 cents per bushel	150 00
One cord of wood for drying the furnace	5 00
Supervision	50 00
Tools, oil, etc	10 00
Expense of machine (for blowing by horse-power)	130 00
Total	$495 00

Expense of cupellation of 11,331 pounds lead:

Labor	$80 00
Three cords wood, at $5	15 00
Tools	2 00
Making the cupel	12 00
Total	$109 00

Total expense of smelting and cupelling, $604.
Silver produced, 771⅔ ounces.

Supposing the silver to be worth $1.25, for it ought to be .980 fine, it would be worth	$964 38
Two tons litharge at $60	120 00
	$1,084 38
Expenses to deduct	604 00
	$480 38
Deduct value of 7 tons of ore	290 00
Profit	$190 38

It will he observed that the estimated value of the silver is pretty high, and no allowance is made for expense of transporting it to San Francisco. On the other hand, Mr. Desormeaux justly observes that a great reduction of expense would be obtained by running steadily; also tbe substitution of a small steam engine for the horse-power, will effect an economy. In fine, this, with all its imperfections, is a first attempt. Charles H. Aaron.

* Argentiferous copper ores.

Interesting Discussion on the Origin of Mineral Veins.

As many of the sound and sensible amongst our energetic miners of the Pacific slopo are still groping amidst crude theories and ill-supported hypotheses, concerning the natnro of tho filling up of cracks which we now reöpen as mineral veins, the source of nearly all the minerals that are mined, and as the merits of the aqueous and igneous theories have been thoroughly canvassed by able judges, who havo long since agreed in favor of the almost applicability of tho former, as set forth in numerous published works, like Cotta's *Erzlagerslaettenlehre*, the following discussion, at the recent meeting of the American Associatiou for tho Advancement of Science, will be found of particular interest to the readers of the Press, as showing the present opinions of our ablest scientific authorities, and at the same time giving a summary of Sterry Hunt's more recent labors in the same field, where he has won for himself a substantial fame amongst the first scientific men of the times:

T. Sterry Hunt, of the Canadian Geological Commission, read a paper upon the "Chemico-Geological Relations of the Metals," which was followed by an interesting discussion upon tho origin of mineral veins, in which Prof. Silliman, of New Haven, and Prof. W. P. Blake, of California, took part and expressed their views at length.

Prof. Hunt said, that the distribution of the heavy metals known to us in the arts, is of much interest in a geological point of view; although much more rare than tho alkaline and earthy metals, and than many other elements, they still occur accumulated in beds and veins, either in a pure state or combined with sulphur or oxygen as rich ores. How have they been thus brought together, and what laws govern their distribution? If we go back to the *chemistry of chaos* we conclude, judging from analogy with the sun and stars, which we look upon as worlds in the process of formation, tbat the metals, like the other elements, existed in a vaporous state in the nebulous mass. During the cooling process, when the affinities of these metals for oxygeu came into play, non-volatile oxides were formed and precipitated, while the precious metals still remaiu in a gaseous state, but were at leugth precipitated on the cooling globe, which consisted of silicates of the various bases, the oxidable metals included. This silicated mass was decomposed by the subsequent acid rain precipitated from the dense hot atmosphere. The bases passed iuto solutiou, silica being separated. Wheu the latter process of subaerial decay gave rise to carbonates of alkalines and alkaline earths, these precipitated all other bases from the sea, and thus the first oceanic sediments were rich in the heavy metals. The subsequent solution of these by infiltratiug waters charged with alkaline carbonates, or silicates, or with soluble sulphides, was discussed at some length by the author, who showed that by the difference in the composition of the water, or in its temperature, it was easy to explain the more or less complete isolation of the various metals which we sometimes meet with, as where deposits of lead, or zinc, or iron are found almost exempt from other metals, by a process of natural analysis and elimination. When these impregnated waters rise through fissures which traverse the strata, the walls become lined with deposits of the various ores and spars, the conditions of whose solution and deposition were discussed. The influence of the various admixtures of waters of different compositiou coming into the fissures was noticed, and also the important relations of temperature to the solubility of tho various metallic compounds. In this connection, the author insisted upon the relations of temperature and pressure to solntion, in accordance with Sorby's discovery, that for such substances as dissolve with a diminution of volume the solvent power of the liquid increased by pressure. Hence, as solutions rise from great depths and become relieved from pressure, the excess of dissolved matter must slowly crystallize out. All of these points were illustrated during the reading of Mr. Hunt's paper, and in his remarks in the discussion that followed. He insisted on the formation, in many cases, of beds or floors of metallic ores or metalliferous rocks, formed by the overflowing of these charged mineral waters. The igneous theory of the origin of metallic veins was then discussed by some of the members present.

In the course of the discussion it was argued, that in the case of auriferous veins, the conditions in which gold has been dissolved and again deposited were evidently not unlike those of the various metallic sulphurets which very generally accompany it. Dr. Hunt considered that soluble alkaline sulphurets and carbonates have been the great agents in the solution of deposition of tho metals and metallic ores, and also of the quartz and spars which generally accompany them.

Prof. Silliman expressed his impression that metallic veins are not contemporaneous with the rocks, but that they have filled the fissures in rock formations in various directions, and that these fissures have in some sense had a growth like that of endogeneous trees. He had perceived, however, a singular dualism on the adjacent walls of the same fissure—if on the one side we find pyrites there is the same on the other side, exhibiting tho deposit as formed from a central place or axis, the spread of the walls being due to the crystallizing action demanding more space, tho width of the fissure indicating to a certain extent the length of time required for the deposit, and the amount of matter. He could not believe that most of the fissures so filled were originally formed as wide as we now find them. The walls appear to have been spread asunder by the force of crystallization of the minerals deposited in them. In the great Comstock lode, of Nevada, the width is, in some places, over 200 feet. In the gold-bearing veins most constant in tenor, the metallic sulphides are always found, as of iron, copper, and more rarely lead, with sometimes zinc and arsenic. The condition of gold in the sulphides was a vexed question. Sometimes we see the gold, but not generally, and it will not yield to amalgamation in any profitable degree; hence the process of extraction must be chemical and not mechanical—the method of chlorination after roasting being the most rational.

Mr. Bassnett, of Ottawa, asked if the Stanislaus lode, at Carson's Creek, California, did not negate, so far as itself was concerned, the proposition of Prof. Silliman.

Prof. Silliman had examined it, and found it to exhibit no evidence of igneous origin.

Dr. Blaney asked if it was supposed that tbe brilliant iron and copper pyrites found in veins are precipitated from solution?

Prof. Silliman replied in the affirmative, and thought no one could show any evidence of igneous origin in metallic veins. Ho had been a disciple of the igneous school, was brought up in it, but bis convictions had been changed after much toil in the field.

Dr. Hunt, in further support of his views, mentioned the effect of a thermal spring upon the pipes conducting it; the pipe, being bronze, was dissolved.

Dr. Blauey asked whether Dr. Hunt believed that the materials held in solution were deposited by double decomposition?

Dr. Hunt replied that there was a difficulty in stating how substances existiug in solution were deposited. Generally it was a mere question of temperature.

Prof. W. P. Blake, of California, commended the manner and matter of the paper,

marking that his observations for several ears upon the gold-bearing veins of Cali- rnia and other regions fully sustained the iew of the aqueous origin of quartz veins, id the deposition of gold and silver from iermal waters ascending along fissures. n California there were several interesting nfirmatory examples. Gold had been nnd in visible grains in semi-opal, clearly e resnlt of aqueous deposition. He would en go further than Prof. Hunt, and main- in the view that gold was even now rising the snrface in springs and depositing in appreciable quantities near or at the sur- ce either by diminution of pressure or of mperature, or by chemical decomposition nsed by contact with infiltrations from e surface or from the sides of the fissures. fine example of the formation or origin quartz veins is found in the well-knowu teamboat Springs of Nevada, where hot ater rises along a fissure for half a mile, d is depositing quartz, and possibly gold d silver. Prof. Blake believed that future emical investigation of thermal waters in ch localities, would show the presence of ld and silver, although perhaps in very nall quantities. At the celebrated Ophir ine of Nevada, from which such a flood of lver had been sent forth, there was orig- ally a spring of water at the surface, and flow of water had been found at a great pth, and that there the water is hot, and lds various salts in solution. He believed at the ascent towards the surface of ther- nl waters, as in springs, in irregnlar col- mns in greater quantity in some parts of a sure than in other parts, would account tisfactorily for the origin of what are own among miners as "chimneys" or ore-shoots," the metals in such places be- deposited where the flow was the greatest. e chemical nature of the walls or fissures ong which mineralized waters were flow- g, would necessarily greatly influence or termine the character and quantity of the tals deposited.

Prof. Stoddard asked if the veins were ther as they descend, as would follow m the law of saturation and release from essure. If this were not so, he asked, w it could be accounted for.

Prof. Blake observed that it must be kept view that few or none, perhaps, of the neral veins which have been explored, s in the exact condition in which they are rmed. They have been subjected to great gradation, erosion or denudation, so that e outcrops, as we find them, are far below e original surface reached by the mineral ters. In some cases, a thousand feet or re of veins had been swept away, thus posing to our view portions of veins that ginally were far below the surface. It s thought that the portion of gold-bear- g veins which have been swept away by e action of rivers or of glaciers, were, rhaps, richer in gold than the portions ich remain, and that thns the extreme lness of the placers as compared with e veins might be accounted for. The epest mines, however, penetrated only an ignificant distance in the veins, compared th their extent, and there was not enough servations to justify any general conclu- n regarding the increase or decrease of lness of veins from the surface down- rds.

MINING FOR TIN has not been carried on any extent in Australia, being confined the Ovens and Upper Yarra districts. e following information is from the *Morn- ton Journal*, respecting the Colin Camp- ll tin mines:

The site of the works is on Sir William llace Creek, about 50 miles from Mel- rne, and the mine was discovered about years ago, by some men engaged in ting a track to the Jordan. Two leases re taken up, and a company having a pital of £7,000 has been formed to work e mine. Mr. James Pascoe, who has en appointed manager of the workings, d is an experienced miner, reports favor- ly of the company's prospects. He states t there will be about 100,000 cubic fath- s of sand to wash. This is rich in tin o, and contains gold to some considerable ent—it is hoped and thought to be in sufficient quantity to clear the working ex- nses. About six tons of ore have already en taken out and cleaned. It is recom- nded to send the ore to England to be ted, and ultimately to erect proper smelt- furnaces, etc., on the ground. When plant is complete, the manager can, he oks, produce the grain tin fit for the rket at 70s. to 80s. per ton of ore, and so e considerably in cartage. The present rkings are entirely for stream tin, but it confidently expected that the lodes from ich it has been derived will be discovered ring the workings.

Mechanical.

ELASTIC COUPLING FOR ROPES OR CHAINS. Messrs. William Dixon and William Brown, of Newcastle-on-Tyne, engineers, have patented "an elastic coupling for the prevention of sudden or unfair strains upon ropes or chains when used in towing, hauling, or lifting." It is also particularly adapted for use in mines and collieries where the ropes or chains used in winding up the cages or tubs are subject to a sudden strain at the commencement of the lift. The apparatus consists of a wrought iron frame of a suitable shape, in which is placed one or more drums keyed fast on to a shaft or spindle, so as to revolve with it. To this spindle or shaft are attached spiral springs in such a manner that when the drums are made to revolve, the springs are thereby compressed. A smaller frame is fitted loosely within the main frame, and has attached to it the hook by which the rope or chain to be used for drawing or lifting can be fastened. This smaller frame carries one or more smaller drums or sheaves. Ropes or chains of a snitable length are fastened to the large drum or drnms, and wound three or more times round them, then led over the smaller drums or sheaves, and then secured to the top shackle of the main frame. If any sudden strain comes upon the hook on the smaller frame, it will cause the large drum or drums to unwind, and thus act on the spiral springs; by this means the ropes or chains used will be relieved of the sudden shock to which they would be otherwise subject.— *Colliery Guardian.*

REVERSIBLE PLOW.—At a recent meeting of the Farmers' Club of the American Institute, a reversible plow called the "Victory," manufactured by C. W. Sykes, of Suffield, Connecticut, was shown, which, unlike the ordinary reversible plow, is designed for work on level land. The distinguishing feature of this plow consists in two mold-boards with suitable shares so arranged that they may be used alternately when plowing in opposite directions at the same side of the field, one being carried at the top of the plow while the other is in use, and the reversing movement being obtained by a kind of toggle-joint, which also serves to brace the parts in position. One or two gentlemen stated that they had witnessed the operation of this plow, and that its work compared very favorably with that of others used in the same field.

BRIDGE BUILDING was one of the arts brought to the greatest state of perfection during the rebellion. General McCallum states that the Rappahannock River bridge, 625 feet long and 35 feet high, was rebuilt in nineteen working hours; Potomac Creek bridge, 414 feet long and 82 feet high, in forty working hours; Chattahoochee bridge, 780 feet long and 92 feet high, in four and a half days; that between Tunnel Hill and Reseca, 25 miles of permanent way and 230 feet of bridges were constructed in seven and a half days, and near Big Shanty 35¼ miles of permanent way and 455 feet of bridges in thirteen days.

WOODEN PARASOLS.—A Parisian invention, now being introduced in London, is a wooden parasol. They are painted to represent peacock's feathers, each feather being a separate rib, like those of a fan. By ingenious mechanism they can be fastened into the form of a parasol, and can also be folded up into as small a compass as a fan, which purpose they answer admirably. They can also be turned into a variety of things, and have joints by which they shade the wearer on any side where the sun is too powerful.

THE wire of a telegraph line just put up between Dover, N. H., and Lake Winnipiseogee, is made of a steel core surrounded by copper. By this construction, it is claimed the following advantages are secured: Superior conducting power, with less weight of metal, durability, and a less number of poles on the line.

A TRIAL of Col. Berdan's new breech-loading rifle was made at the armory grounds, Springfield, satisfactorily to himself and friends. The trial was made at distances varying from 300 to 1,050 yards; in the former case the mean deviation being three inches, and in the latter twenty inches. The gun is upon the sliding-bolt principle, and resembles the Chassepot gun with which the French troops are armed. Col. Berdan has orders from the Russian, English, and Austrian Governments.

Scientific Miscellany.

THE SPECTROSCOPE AND THE BESSEMER PROCESS.—Almost with the first announcement of the action and indications of the spectroscope, says the *Journal of the Franklin Institute* for July, it was proposed to apply it in the manufacture of iron as an indicator of the progress in change or conversion of the material. After many and various experiments, which we have from time to time noticed, it is now at last announced that a satisfactory result has been reached by Prof. Lielegg and Dr. Roscoe, and that in the Bessemer process, the proper moment for stopping off the blast and introducing the spiegeleisen can be determined by observation of the flame escaping from the converter, with a spectroscope. The order of changes in the spectrum are from first to last as follows: When the charge is started, a luminous spectrum appears, due to the volley of sparks, with no lines; soon after the sodium line is seen, followed by those of iron, lithium, potassium, hydrogen, nitrogen, and a number of bright lines with very dark spaces between, due perhaps to carbonic oxide and perhaps to carbon vapor, which occur principally in the green, these again disappear in inverse order to that of their development, and their total or partial extinction is the signal for the stoppage of the blast, and the introduction of spiegeleisen.

POTASH FROM WOOL.—The French have discovered that sheep draw from the land on which they graze a considerable quantity of potash, much of which is ultimately excreted from the skin with the sweat. It was pointed out by Chevreul that this peculiar potash compound *(suint)* forms no less that one-third of the weight of raw merino wool, while of ordinary wools it constitutes about fifteen per cent. of the weight of the fresh fleece. As the *suint* may be extracted by mere immersion in cold water, it is easy for the wool manufacturers to produce more or less concentrated solutions from which the potash may he recovered by appropriate treatment. The development of the new industry is principally due to MM. Maumené and Rogelet, and their process is probably in operation at most of the great seats of wool manufacture in France. The plan adopted is very simple. They evaporate the solutions which are sent to them until a perfectly dry and somewhat charred residue has been obtained. This is placed in retorts and distilled, very much in the same manner that coal is distilled at gas works; and the result is that, while much gas is evolved, which can he used for illuminating the factory, and much ammonia is expelled, which can he collected and utilized in many ways, here remains a residue which chiefly consists of carbonate, sulphate, and chloride of potassium. These three salts are separated hy the usual method and then pass into commerce.

NEW METHOD OF EXTRACTING COPPER.—Mr. Wm. Henderson, of Glasgow, has taken out a patent for a process for working poor copper ores. His claim is for so regulating and mixing his ores that the proportion between the copper to he extracted and the sulphur combined with it shall be at all times constant. In the preliminary calcination of the pyrites he makes such an admixture as shall leave him in the hurnt ore from one to one and a half times as much sulphur as the metal to be extracted; thus, if the pyrites have two per cent. copper it must have three per cent. sulphur, and so on for other percentages. In the further treatment of this prepared ore, from ten to twenty per cent. of salt is mixed with it, and the mass is then calcined in close calcining and volatile chlorides. The former are washed out of the ore and the latter caught in a condenser filled with coke. Mr. Henderson states that the main feature of his process, and the one which has established its practical success, is the regulation of the proportion of sulphur to that of the copper in the ore as one and a half to one as a maximum. In this proportion the mutual decomposition of the salt and sulphuret of copper takes place so rapidly and so completely that calcination is effected in six hours, and can be conducted at a dull red heat.

MR. HUGGINS has succeeded in showing that Sirius—the only fixed star that he has had time to examine satisfactorily—is approaching the solar system at the rate of 29½ miles per secoud.

MR. BROWNING has observed several faint markings on the planet Venus resembling the grey plains on the moon. These markings seem to be studded with white spots of various sizes.

SPONTANEOUS COMBUSTION.—On Sunday evening, July 20, the outer wall of the new fire-proof building of the iron and steel works in Derby, Ct., was observed to radiate a strong degree of heat. It was subsequently discovered that a deposit of iron turnings or chips, amounting to several tons, in which was a considerable mixture of oil, had ignited by spontaneous combustion. Workmen with wheelbarrows immediately began removing the deposit, which occupied ten or twelve men from seven o'clock Sunday evening, till noon on Monday. The heart of the pile was found a mass of fire, and but for the brick work, and the prompt action in subduing the fire, quite a conflagration might have been the result. A few years ago the dross and excrescence from the furnaces of this company, together with iron filings, sawdust mixed with oil, etc., were deposited on a portion of its grounds in large quantities, covering nearly half an acre to the depth of eight feet, designed to form a plateau or grade. This mass took fire in the fall of that year and resisted all attempts at extinguishing until nearly spring, the whole mass seething though smoldering, and at times bursting out with extreme heat and a vigorous draft of flame. If apparently subdued with a copious flow of water it would soon reappear in another quarter, and finally had to he subdued hy trenching.

At the Churprinz galena mine, in Saxony, there is a warm spring caused by the heat evolved from the decomposition of iron pyrites. Heat is caused by a rapid combination of the oxygen of the air with the substances in question; when evolving appreciable heat or light, it is called "burning."

MEERSCHAUM FROM POTATOES.—Chemistry has discovered a new and interesting use for potatoes and other vegetables, illustrations of which were seen hy visitors at the Paris International Exhibition. If potatoes are peeled, macerated for about thirty-six hours in water, to which about eight per cent. of sulphuric acid has been added, well washed with water, dried in blotting paper, and then in hot sand for several days, on plates of chalk or plaster of Paris, which are changed daily, being compressed at the same time, an excellent imitation of meerschaum, answering well for the carver or any purpose not requiring a high temperature, will be obtained. Greater hardness, whiteness and elasticity will he produced if water containing three per cent. of soda, instead of eight per cent. of sulphuric acid, is used; and if, after the potatoes have been macerated in this solution (soda), they are boiled in a solution containing nineteen per cent. soda, a substance resembling stag's horn, and which may be used for knife handles, etc., will be formed. Turnips may he used instead.

AN ELECTRICAL ORGAN was recently inaugurated in the Church of St. Augustine, Paris. A single wire passing from the key to an electro magnet communicates to it a galvanic current, thus obviating the old system of the long chain of wooden slips, called trackers, that required such hard thumping to cause them to move promptly. This electro magnet, by means of a small valve, works the pneumatic lever, which consists of a sort of bellows placed just under the wind-valve of the pipe.

TO REMOVE paint of white lead or zinc, if it resists the action of benzine, ether, or bisulphide of copper, as it may if the paint spots have become hard, use a small amount of chloroform.

WATER-PROOF GLUE, says the *Journal of Applied Chemistry*, may be made hy boiling one pound of glue with two quarts of skimmed milk. This makes an excellent glue for articles which are exposed to the action of the weather.

THE North German expedition for the observance of the solar eclipse of the 18th August, started from Berlin on the 8th July for Bombay.

THE coal strike in Pennsylvania having ended, mining operations have been resumed with great activity under the stimulus of increased prices for coal. The effort of the miners to enforce their interpretation of the eight-hour law, and to obtain for eight hours' labor the wages previously given for ten, was a total failure except at a very few collieries. In returning to work under the ten-hour system, in the Schuylkill region, they secured an advance of from ten to fifteen per cent. on their old wages.

Papers Read Before the Scientific Association.

From the daily programme of the seventeenth meeting of the A. A. A. S., recently held at Chicago (sent to us by Prof. Blake), it appears that papers were read on the following subjects.

Geology, as will be observed, has employed a large proportion of the best talent of the country; an unusual amount of activity and originality being exhibited in the observations which have been made, and in the papers that were read, pertaining to the earth's physical history. Thus an American school of geologists is seen growing up under the instruction of our own peculiar physical surroundings, whose progress and influence,—with Dana at the head,—will soon stand not second to that of any of the publicly more favored European countries. Boldness in the advancement of new principles and theories, is characteristic of the matter presented. Hence the utility of such public discussions—the immediate result of the same being the creation of an enlightened public opinion upon scientific subjects, and the killing off of humbugs,—a sore necessity on every new and prolific soil:

By J. H. Gibbon, on the artistic evidences of the remote colonization of the Northwestern or American continent by maritime people of different nationalities before the modern era; by Rush Emery, on a boulder field in Cedar County, Iowa; by N. T. True, on phases of glacial action in Maine, at the close of the drift period; by Henry Wurtz, giving supplementary notes on gold genesis; do., containing some new facts and views concerning aluminum; upon the Ammonoosac gold field in New Hampshire; on a suspected unknown element in the Laurentian magnetites; on the nature of metallicity; studies of the red sandstones of the Atlantic slopes and their inclosed igneous masses; on chemical geogomy, in three parts: 1st.—on the prozoic atmosphere and the ocean of the zoic dawn; 2d.—Zoic history from a chemical view-point; 3d.—chemical revelations of the final zoic catastrophe; by T. Sterry Hunt, on the chemico geological revelations of the metals; by Elias Loomis, on the influence of the moon upon the weather; by T. S. Hunt, on gold in the Laurentian rocks of Canada; do. on the gold region of Nova Scotia; by J. W. Foster, on the origin of the prairies; by C. C. Parry, on the habitable features of the North American continental plateau near the line of 35° north latitude, containing a general summary of conclusions derived from a review of its aboriginal population and natural features; by J. D. Whitney, on the progress and present condition of the Geolgical Survey of California; by Edward Hungerford, notice of experiments on snow and ice at a temperature below 32° F.; by O. N. Stoddard, on the hot term of July; by T. S. Hunt, on the upper Silurian and Devonian rocks of Ontario; by W. P. Blake, on the plasticity of rocks and the origin of the structure of the so-called gravestone slates of California; by J. S. Newberry, on the physical geography of the continent of North America during the different geological periods; by A. H. Worthen, on the fuel resources of Illinois; by J. W. Foster, on the antiquity of man in North America; do. on crania of Boothcrinm and Castoroides, with remarks on their geological position and their living analogues; on the refrigeration of continents; on the occurrence of tin in Missouri; by L. H. Morgan, on the migrations of the Indian family; by E. L. Buttrick, on the application of carbonic acid gas in the extinguishment of fire; by J. H. Coffin, on Hough's barometrograph as applied to the investigation of the storm curve; by James Hyatt, movements in stratified rocks since the glacial epoch; by Charles Whittlesay, on the stratigraphical relations of the fossil horse in the United States; do. on the geological evidences of man's antiquity in the United States; by J. S. Grimes, on the laws of ocean currents; by P. E. Trastour, on new geological studies, and laws of the earth; by S. D. Tilman, on the combining power of chemical elements; by Edward Hungerford, on experiments illustrating the flow of glaciers; by T. C. Hilgard, on the importance of the sub-marine Aleutian chain as a geostatic and geographical feature; by H. F. Walling, on atomic motion; by C. A. White, on the red quartzite boulders and their original ledges *in situ* in northwestern Iowa, eastern Dakotah, and southwestern Minnesota; by F. B. Hough, on the principles of statistics as applied to the census; by A. Winchell, exhibition of a new geological chart, and a new label holder for geological specimens; do. on some points in geological nomenclature; by Thomas Egleston, on the profiles of blast furnaces; by J. S. Newberry, on the physical geography of the continent of North America during different geological periods; do. on the transportation of materials forming the carboniferous conglomerates; and on the surface geology of the basin of the great lakes and the upper Mississippi Valley; by W. P. Blake, on the gradual dessication of the western portion of North America; do. on vestiges of pre-historic races in California; by S. K. Warren, on certain physical features of the Mississippi River; by G. L. Vase, on the distortion of pebbles in conglomerate at Ranghy, Maine; by Theodore Gill, on the classification and relations of seals; by A. Winchell, on the secular recurrence of identical petrogenetic conditions; by J. S. Jewell, on superficial geology of the lake shore near Chicago; by Charles Moran, on the Darwinian theory of development; by George A. Leakin, on the periodic law in the failure of harvests and inundations, with suggestions as to their insurance; by J. S. Wallace, on the old lake beds of the prairie region; by J. D. Whitney, on the fossil skull of Calaveras County; do. some points in the surface geology of the western side of the American Continent; and in the Yosemite Valley; by Benj. Silliman, on the structure and aqueons origin of gold-bearing mineral veins; do. on methods of amalgamation in the treatment of gold ores; and on the occurrence of the mastodon in the deep-lying gold placers of California; by P. H. Vander Weyde, on the relation between the atomic volume of different metals, and their paramagnetic and diamagnetic properties; by W. W. Williams, on geodes; by T. H. Safford, on the theory of the prediction of star places; by J. S. Newberry, on the oldest known fossil trees, from Devonian rocks in Ohio; by Michael W. McDermott, on the application of the heliostat and method of running true meridian lines in surveying; by W. DeHass, on the archæology and ethnology of Mississippi Valley; by B. Silliman, on the evaporative power of the sun near the base of the Sierra Nevada, in Calaveras County, California; by Clinton Roosevelt, proofs that the changes of climate and dislocations and upheavals of the earth's strata, are due to astronomical and not to glacial action; do. on the beginning of creation, of the sun and planets, with strictures on the cosmogonies of Des Cartes, Kart and La Place; by James Hyatt, glaciers as extensive and constant geologic agencies; do. some points in the geology of Hudson River; by W. P. Blake, on some of the causes which affect the rapidity of the erosion of rocks and river valleys; by B. W. Hawkins, on the interpretation of fossils; by S. F. Peckham, notes on the origin of bitumens, together with experiments upon the formation of asphaltum; by O. N. Stoddard, on the higher law of correlation; by E. W. Hilgard, on the geology of the Mississippi delta and the salt deposit of *Petite Anse*.

It is presumed that all these papers will be published and procurable through the members.

New Incorporations.—Articles of incorporation have been recently filed in the County Clerk's office in this city as follows:

Mexican Mining Co.—State of Nevada. Sept. 22d Capital stock, $500,000. Trustees: Mark and Frank Livingston, G. W. Beaver, John Gillig and Chas. Bonner.

Alexander Mining Co.—State of Nevada. Sept. 25th. Capital stock, $400,000. Trustees: W. Lane Booker, J. O'Hara Taaffe, R. G. Sneath, D. W. C. Rice and Jno. T. Boyd.

Star Creek Mining Co.—Humboldt county, Nev. Sept. 30th. Capital stock, $500,000. Trustees: Irwin Davis, George Falkener, J. Livingston, Horace Morrison and S. H. Morrison.

Kansas Gravel Mining Co.—California. Oct. 2d. Capital stock, $300,000; 3,000 shares. $100 each. Trustees: E. J. Weeks, R. E. Brewster and James T. Boyd.

A Gold Quartz Vein has been discovered near Clinton, N. Y., assaying $15.45 to the ton in gold, and about twenty per cent of that amount in silver.

A Spectacle Worth Seeing—The continual crowd at Maller's Spectacle Emporium, 205 Montgomery. *

Prepared Solder.—One of the new labor-saving preparations for which our Eastern States are famous, is that of Wilson's Prepared Solder, by the use of which the old-fashioned soldering iron is dispensed with in the mending of



small wares, about the household. The accompanying cut shows the application. The apparatus is simply a small vial of acid, with a wire of solder, which, when not in use, is coiled about the neck of the vial. The directions for use best explains its simplicity. The agency for the Pacific coast is at No. 31 Kearny street.

A Successful California Invention.—W. C. Bussey's Improved Combination Bank and Safe Lock, which received a diploma at the late Mechanics' Fair, is a California invention of no ordinary merit. It is also an article of home manufacture, being built by the inventor at 18 Post street, in this city.

This is a lock in which a series of tumblers is employed, and it consists of a novel arrangement of such tumblers in connection with one or more arms connected with one or more bolts, whereby an extremely strong, simple and effective lock is obtained, presenting an almost unlimited number of combinations. In his improved lock the bolt is drawn by means of the center knob, whereas in the original it is drawn with an eccentric hook. In the latter form it received a special premium at the State Fair in 1867.

It has already been extensively introduced in this city, as well as in many portions of the interior of California and Oregon, usually giving the best satisfaction, and in many instances receiving from parties using the same very complimentary certificates as to general excellence and superiority over other similar locks in use.

The Bank of British Columbia was the first to order one of these locks. This was not done without mature deliberation and a strict investigation of its merits in comparison with some of the most noted and popular old styles of combination locks. They afterwards recommended it to the attention of the public, believing it to possess all the advantages claimed for it by the inventor.

Of the many good things they say of it, we append the following: "It is strong in construction without intricate or delicate parts, with simple and easy movement. We find no difficulty in either opening or closing it, nor in changing its combinations, which may be made almost innumerable."

It is capable, we understand, of making over half a million different changes. It will be found impossible to open this lock by manipulating the combinations without a knowledge of the numbers on which it is set. It is also entirely keyless, with no signs, letters or figures, nor even a keyhole on its face to tempt the wily burglar.

Ore Concentrator.—The *Artizan* records a new invention in concentration, consisting of "an ore bed composed of tubes constructed and arranged so as to admit of the passage within and through or out of them of a current or currents of air or water in such manner as that said air or water in escaping therefrom will meet in the center or cross the opening or openings in the bed through which the ore or certain grades of it descend or pass in being separated." The ore bed is made of tubes or hollow bars of a reticulated character for the passage of air or water through them. The heavy particles of ore fall through the opening or openings in the bed; a free action of air or water is secured on the ore lying on the bed, and at the same time an unrestricted and convenient escape for the concentrated or rich ore is established. The improvement is applicable to ore concentrators or separators generally. S. R. Krom, of New York City, is the patentee.

New Patents Issued to Pacific Coast Inventors.

Specially reported by the U. S. Patent Office, Washington, D. C., to Dewey & Co., American and Foreign Patent Solicitors, and Publishers of the Mining and Scientific Press.

Issued for the Week Ending September 16th, 1868.

82,058.—Improvement in Mortising Chisel.—Otis Adams and James Hatch, of San Francisco, Cal.:

We claim making the lips beveled from the edge to the main part of the chisel and with the ends beveled and inclined as herein set forth.

82,122.—Improved Composition for Marking Designs upon Fabrics.—Mrs. R. L. Jones, Sacramento, Cal. (Antedated May 6th, 1868.)

I claim the composition of resin and soot perfumed, as above described and for the purpose set forth.

82,135.—Improvement in Device for Conducting Grain to Threshing Machines. A. W. Lockhart, Sacramento, Cal.:

I claim the employment or use of a plurality of endless aprons H, K, K, connected with a frame F, and an adjustable upright pole A, and all arranged in such a manner that the aprons may be adjusted at different degrees of inclination in order to feed grain from stacks or wagons to threshing machines, and the pole rendered capable of always being adjusted in a vertical position, even when placed on uneven or inclined ground, substantially as and for the purpose herein set forth.

82,065.—Improvement in Gang Plow.—Fredcrick P. Smith, Petaluma, Cal.:

1. I claim the arrangement of the devices and means herein recited for raising and lowering the frame and plows.

2. The bars with spaces on the end of the beam and on the tongue, with the bolts and nuts, for the adjustment of the land wheel axle, and the caster wheel arm, as herein set forth.

82,166.—Improvement in Gang Plows.—F. P. Smith, Petaluma, Cal.:

I claim the combination of the several means and devices herein set forth for raising and lowering the plows.

Recent Inventions.

New System of Constructing Railway Tracks.—Among the recently granted patents by the United States Patent Office, is one to Carlo Margutti, of Milan, for a new locomotive and a new system of constructing railway tracks. A new area would be marked in the history of Italy if she should substitute or supplement her ascendency in art and music by instructing and leading the world in mechanism.

Notices of Recent Inventions.

81,910.—Improvement in Escapements.—Wm. C. Kellum, San Francisco, Cal.:

1. I claim the detent F, and the adjusting screw d, together with the curved arm H, and the spring I, operating by the liberating pin a, or its equivalents locking by spring or gravitation, substantially as and for the purpose described.

2. The escape wheel B, moving in a plane parallel to that of the balance staff and of the plates A, A, and giving impulse to the pallet c, either from the sides or point of the teeth, in combination with the detent F, arm H, and spring I, substantially as described.

3. The balance staff c, standing parallel with the plate A, and the liberating pin a, passing alternately above and below the lip J, at each vibration, substantially as described.

In this invention the balance receives one impulse at each vibration, the detent being operated by a liberating pin attached to the balance staff, and moving alternately above and below a lifting spring, which operates the detent. By this and other improvements difficult of description, it is claimed that the movement of the piece is rendered more accurate than in the ordinary clocks, the balance wheel receiving its impulse at each vibration, while the arrangement of the several moving parts is such that the piece is rendered simple and cheap.

Two Rocks, Sonoma Co., Cal., Sept. 23, 1868.—Messrs. Dewey & Co.—On my arrival home, I found my Letters Patent all arranged to my entire satisfaction. Please accept my thanks for the energy, skill and dispatch with which you procured it for me. In future, should I require assistance in your line of business, I shall most certainly apply to you. Truly yours,

Michael Laufenburge.

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board.

San Francisco, October 3, 1868.

City Stocks.

More than usual activity characterized the miscellaneous share market during the week under review. Sales of San Francisco Gas stock were made at $77 50. The usual monthly dividend is payable since the first instant. Considerable sales of Spring Valley Water stock have been effected at $66 per share. California Steam Navigation sold at 68½ @ 68 per cent.; North Beach and Mission Railroad at $70, and National Insurance at $73.

The Pacific Bank paid its usual monthly dividend on the first instant. The annual meeting of the stockholders of the Home Mutual Insurance Company will take place on Tuesday, the 6th instant, at noon.

From our carefully compiled record of the sales in the San Francisco Stock and Exchange Board, we give the following interesting figures, for the first nine months in 1865, 1866, 1867 and 1868:

MONTH.	1865.	1866.	1867.	1868.
January....	$1,001,598	$2,727,187	$3,664,322	$8,688,934
February...	2,356,855	3,152,292	3,303,520	9,716,396
March.....	5,528,900	5,220,064	4,034,259	11,471,830
April.....	4,330,622	4,038,896	5,593,016	12,385,304
May.....	5,865,549	3,052,102	7,671,855	10,162,336
June.....	4,571,640	2,408,341	6,864,365	9,058 063
July.....	4,721,193	1,553,854	6,822,200	8,474,898
August.....	4,292,618	1,284,452	7,538,420	11,312,001
September..	4,829,501	1,758,191	6,130,854	10,578,561
Totals.....	$38,498,866	$25,871,619	$51,667,841	$92,178,083

It will be observed that the sales for the period under review are largely in excess of like periods since 1865, being nearly four times larger than 1866 and twice as large as the sales in 1867. The transactions at the open sessions are included in the above statement, and amounted to $1,654,625 in January, $2,138,763 in February, $2,676,558 in March, $2,533,474 in April, $2,112,940 in May, $2,132,086 in June, $2,013,694 in July, $2,918,472 in August, and $2,883,657 in September, making a total of $21,283,886 for the past nine months.

Mining Share Market.

Viewed as a whole, the reports from the State of Nevada during the past quarter have been satisfactory for the present, and encouraging for the future; the older mines having continued to yield about their ordinary complement of bullion, and liberal shipments having been made from many of the outside districts. Although the various claims on the Comstock vein have scarcely aggregated so large a product of the precious metals as usual, exploratory labors have been pushed upon the most of them with great energy, resulting in some cases in the development of fine bodies of ore in the lower levels of the mines, and at greater depths than had before been reached. In a few cases no such results have been arrived at; yet, as the vein has been found every where preserved in all its masterly proportions, no serious apprehensions are entertained as to the finding of fresh bodies of pay ore at points further down. The history of all great mines, and even that of the Comstock lode itself, teaches that a continuous mass of high grade ores is not to be looked for. Hence the occurrence of these barren spaces should create neither surprise nor alarm, being what is encountered in the experience of silver mining all over the world. It may be accepted as a geological axiom, that so long as the vein itself exists it is almost sure to carry these bunches of ore indefinitely downwards. We explained on a former occasion the theory of the occurrence of these bonanzas or chimneys in all powerful veins, from which it was made to appear that no individual claim along the line of a great lode would be likely to be always in rich ore; and further hermore, that there was no well authenticated instance of any such vein having ceased to yield valuable ores so long as its continuity was maintained. The silver mines of Mexico, after more than three centuries of active, and probably many more of moderate development, afford no signs of final exhaustion; while those worked to much greater depths, in other parts of the world, than have ever yet been attained on the Comstock lode, continue, as a general thing to yield as well now as at any previous time.

The present depressed and fluctuating condition of the share market can hardly be accepted as indicating the actual or prospective condition of these mines, nor even as being a fair exponent of opinion in regard to the same. As is well known, the prices of these stocks are often very little dependent on the product or appearance of the properties they represent, it having sometimes happened that they ruled lowest when the mines themselves were looking well and yielding largely. Even now, as before remarked, several companies have reached what seem large bodies of good ore at unwonted depths, a number of the more prominent and largely productive mines appearing in this category. Thus in the north Savage ground at a perpendicular depth of over 900 feet, a streak of ore 18 feet wide has been struck, which, without much assaying, it is believed will yield at least one hundred and some of it several hundred dollars to the ton. Lying at such a great depth, this discovery may be considered significant of developments likely to occur at simi ar depths elsewhere on the great mother lode. The Yellow Jacket company in their lower levels, and the Alpha between their 200 and 300-foot levels, have each a large mass of medium grade ore; and although the Imperial and Crown Point companies have not as yet reached in their deepest levels such deposits as they were seeking for, both are raising considerable quantities of fair milling ores, the same being the case with the Chollar-Potosi and several other leading companies.

Some difficulty has been experienced of late in maintaining a proper degree of ventilation in several of the Comstock mines, leading to a suspension of work upon them for a season, curtailing to that extent the ordinary ore supply; while an unusual number of mills in that vicinity have been stopped for enlargement or repairs, thereby diminishing the amount of bullion that would otherwise have been produced.

Although we have admitted there may have been a slight falling off in the product of the Comstock mines thus far for the current year, it is not clearly apparent that such is the case. That the aggregate amount of the precious metals sent from Nevada the present, will equal, if it do not exceed that of any former year, seems probable; but as much of this comes from outside districts to Virginia City and is there re-shipped and credited to the Comstock lode, it is difficult to discriminate between what actually belongs to the Virginia mines and what to those located elsewhere. But whether the aggregate yield of the Comstock mines may have been a little more or a little less this year than last, it is not material to inquire, since it is certain that by the construction or a railroad reaching from Virginia City to the Truckee, their annual production might for many years be doubled simply by working the refuse ores that have accumulated about those mines and the low grade ores that exist near by in great profusion. With such facilities for cheap transportation, it is believed that $7 ore could be reduced with profit—a class that could be procured, if not from the Comstock lode, at least in the vicinity of Virginia, in untold millions of tons. Thousands upon thousands of tons of tails and even a higher grade ore lie heaped up about the dumping grounds at Virginia City and Gold Hill, or are buried in the chambers of the old mines where they were used for filling in or thrown, simply to get them out of the way. How large the resultant gains through the construction of a railroad would become for the entire stretch of mines on the Comstock range, may be conjectured from the fact that the President of the Savage company—a man thoroughly conversant with the subject and singularly cautious in his estimates and statements—computes the annual saving that would accrue through railroad transportation to that company alone at over two hundred thousand dollars. That an aggregate saving of a million dollars or more might thus be effected seems certain. With a railroad and a deep drain tunnel constructed, there can be no doubt but the annual returns from the Comstock lode proper, instead of diminishing, will undergo a marked increase hereafter, to say nothing of the product that may reasonably be counted upon from the outside mines in the neighborhood, some of which are already yielding handsome complements of bullion.

The market for mining shares exhibited increased firmness since our last similar reference, and the general list of stocks commands greatly improved prices. The sales have also been largely augmented, showing that outside dealers manifest a greater interest than for some time past. Under the present very sharp advance "shorts" have evidently operated to a disadvantage, being the reverse of transactions made when shares were declining. The "strike" in the Savage has had this marked effect in values, and fully proves what we now, and heretofore so frequently, stated in regard to this lode.

IMPERIAL—advanced from $105 to $116, and at the close realized $113 50. The receipts of bullion for September account to the 28th amounted to $34,300. On the 29th ult. the shaft was 82 feet in depth below the 900 level, and the main drift on the lower level had attained a distance of 345 feet from the shaft, leaving 35 feet to reach the upper end of the winze on the 700 level of the Alta mine, where they now have a fair body of ore. They hoist about 140 tons of ore per day.

KENTUCK—declined from $299 to $280, advanced to $300, and closed at $295. The receipts of bullion so far for September account aggregate $105,695.....CONFIDENCE, to the 26th September, produced $18,271 84 for account of that month.....GOLD HILL QUARTZ received $8,395 so far for September account.

SAVAGE—was exceedingly active toward the close of the week, at a very material advance, rising from $93 to $125, and closing at $117. This company has been successful in reaching a fine body of ore on the lower levels of the north mine, to which we have made allusion in our opening remarks of this circular.

GOULD & CURRY—improved from $90 to $108, and closed at $109. Sinking of the Bonner shaft is much easier. The finding of ore in the Savage ground at their lowest level added the present rise of this stock... .CHOLLAR-POTOSI advanced from $147 50 to $168, and closed at $162 50. They extracted 986 tons during the week ending September 25th, against 849 tons the previous week. The southeast face of the Blue Wing stope is yielding a better quality of ore. The incline is now 74 feet below the 1,100 level.

HALE & NORCROSS—sold to a considerable extent within a range of $49@54, closing at $51. Nothing of importance from this mine. It is believed that an assessment will soon be levied by this company.....OPHIR met with trifling sales at $18 50. The shaft is now 475 feet in depth.

CROWN POINT—was in the market at $44@50, and closed at $48 75. On the 2d inst. the shaft was 98 feet in depth below the 900 level. They are getting some fair ore in the drift from the bottom of the north winze on track floor of 900 level. The stopes between the 700 and 800 levels are weakening, but will yield a sufficient quantity to keep the mill running for some weeks.....OVERMAN advanced from $79 to $90, and closed at $84 50. On the 25th of September, in the south drift on the 400 level, they met with very good ore, and a drift has been started to cross-cut the vein. The ore extracted from the 300 level shows some improvement in quality.

AMADOR—sold at $240@232 50. The bullion returns for September aggregate $42,300, against $44,250 in August. The last clean-up of the above returns aggregated $17,800. The three mills of this company did not run full time during the last half of the month.....ALTA rose from $44 to $58 50. A correspondent writes that they have found some new pay ore, 45 feet west of the east wall. The strata is narrow, but very good, and what is very strange lies entirely north.... YELLOW JACKET sold largely at extremely fluctuating rates, ranging from $1,250 to $1,455. It is reported that the lower levels show a marked improvement.....The stockholders of the LADY BRYAN Co. are requested to meet at the office in Virginia City on the fifth of October, "for the purpose of expelling all the Trustees of said company and electing their successors; and the undersigned, representing four thousand three hundred and thirty-one shares of the stock of said company, do hereby call a meeting of said stockholders, at the time and place and for the purposes aforesaid. H. H. Flagg, A. E. Hill."....A special meeting of the DANEY M. Co. will be held on the 19th instant, to amend the By-Laws.

MANUFACTURE OF SHODDY.—Not the least important of the English manufacturing towns is Batley, the seat of the great latter-day staple of shoddy. This is the famous rag capitol, whither every beggar in Europe sends his cast off gentility of moth-eaten coats, frowzy jackets, worn-out linen, offensive cotton, and old worsted stockings; this is their last destination. Reduced to filaments and greasy pulp by mighty toothed cylinders, the fabrics reenter life in brilliant forms, from solid pilot cloths to silky mohairs and glossiest tweed. Thus the tail-coat rejected by the Irish peasant, the gabardine too fine for the Polish beggar, are turned again to shiny noses, reappearing, it may be, in the lustrous paletot of the sporting dandy, the delicate riding-habit of the Belgravian belle, or the sleek garment of the confessor.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE.
Alameda Coal, Sept. 17, 50c..	Oct. 27—Nov. 16	
Amador Co., dividend, $5 per share..	Payable Sept. 19, 1868	
Bunker Hill, Amador co., May 19, $10.....	Oct. 6—Oct. 26*	
Bullion, Aug. 19, $10.....	Payable immediately	
Bacon, Storey co., Nev., div.....	Payable June 19, 1868	
Chollar-Potosi, div., $25.....	Payable Oct. 15, 1867	
Chipseuent, Mexico, Sept. 7, $5.....	Oct. 9—Oct. 26*	
Chalk Mt. B. G., Nevada co., Aug. 17, $1...	Sept. 23—Oct. 12*	
Crown Point, dividend, $7 50.....	Payable Sept. 12 1868	
Cherokee Flat, Butte Co., Sept. 2, $5	Oct. 5—Oct. 19	
Daney, Storey co., Nev.....	Special Meeting, Oct 19	
Diamond, Del Norte co., Feb. 4, $2.....	Oct. 7—Oct. 26*	
Enterprise, Meadow Lake, Aug. 28, $1.....	Sept. 30—Oct. 17	
Folsom St. & Ft. Pt. R. R., Sept. 11, $5.....	Oct. 13—Oct. 28	
Empire M. & M., Nev., dividend $6.....	Payable May 15, 1867	
Eureka, div. $7.50.....	Payable Aug., 1868	
Gould & Curry, div., $7.50.....	Payable May 15, 1867	
Gold Hill Q M & M—dividend, $7 50...	Payable July 13, 1868	
Golden Rule, Tuolumne co, div. 50c ₹ sh...	Payable Aug. 23*	
Hale & Norcross, div. $125.....	Sept. 16, 1867	
Hope Gravel, Nevada co, July 30, $1.....	Sept. 10—Oct. 5*	
Imperial, Storey co, Nev., div.....	Payable June 20, 1868	
I. X. L., Alpine co., Aug. 20, $1.50.....	Sept. 19—Oct. 7*	
Julia, Storey co., Aug. 24, $1.50.....	Sept. 28—Oct. 17	
Kentuck, div., $30 per share.....	Payable Sept. 10, 1868	
Kearsarge, Inyo co., Sept. 18, $1.....	Oct. 22—Nov. 10*	
Morning Star, Alpine co., Sept. 25, $2.50.....	Nov. 2—Nov. 23	
Maxwell.....	Meeting Oct. 22	
North Star, dividend, $5.....	Payable Aug. 15, 1868	
Nevada City G. M. Co., Nevada co.....	Meeting Oct. 5*	
N. A. Wood Preserving Co., Sept. 3, 50c.....	Oct. 5—Oct. 21*	
Oxford Beta.....	Sale Oct. 12*	
Providence, Nevada co., Sept. 11, $2.....	Oct. 17—Nov. 5*	
Pacific Unassessable, div.....	Payable June 18, 1868	
Pacific Coal, Sept. 19, $12.50.....	Oct. 29—Nov. 18	
Rising Star, Idaho, Sept. 11, $7.50.....	Oct. 24—Nov. 25	
Savage, Virginia, Nev., dividend, $5...Payable Sept. 11, 1868		
Sierra Nev., Storey co., Nev., Sept. 25, $10..Oct. 27—Nov. 14		
Segregated Belcher.....	Annual Meeting Oct. 6	
Silver Sprout, Inyo co., Aug. 4, $30.....	Sept. 4—Oct. 21*	
Santiago, Silver City, dividend.....	Payable Sept. 10, 1868	
Sand Spring Salt, dividend $1.....	Payable June 5, 1868	
Tallulah.....	Annual Meeting Oct. 20	
Virginia & G. H. Water Co.....	Dividend, payable May 15	
Yellow Jacket, div., $75.....	Payable July 10, 1867	

Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD.

FRIDAY EVENING, Oct. 2, 1868.

MISCELLANEOUS STOCKS.	Bid.	Askd.
United States Bonds, 5 20s	$ 77½	78½
Legal Tender Notes.....	71	71½
California State Bonds, 7s, 1857.....	95	95½
San Francisco Bonds, 10s, 1851.....	par & int.	
San Francisco City Bonds, 6s, 1855.....	—	—
San Francisco School Bonds, 10s, 1860.....	100	—
San Francisco School Bonds, 10s, 1861.....	par & int.	
San Francisco City and County Bonds, 6s, 1858..	85	90
San Francisco City and Co. Sch'l B'ds, 7s, 1866.	90	—
San Francisco City and Co. Bonds, 7s, 1862....	90	91
San Francisco City and Co. Bonds, 7s, 1864....	90	—
San Francisco City and Co. Bonds, 7s, 1865....	90	—
San Fran co City and Co. Judg. Bds. 7s, 1863.	90	—
San Francisco City and Co. Judg. Bds, 7s, 1864.	90	—
Sacramento City Bonds.....	23	25
Sacramento County Bonds, 6s.....	70	73
Marysville Bonds, 10s.....	75	80
Stockton City Bonds.....	60	70
Yuba County Bonds, 8s.....	77	78
Santa Clara County Bonds, 7s.....	75	77
Butte County Bonds, 10s, 1860.....	10	75
San Mateo County Bonds, 7s.....	75	80
California Steam Navigation Co.....	66	69
Spring Valley Water Co.....	66	66½
State Telegraph Co.....	25	29

GAS COMPANIES.		
San Francisco Gas Co	77	78
Sacramento Gas Co.....	—	75

RAILROADS.		
Sacramento Valley Railroad.....	—	—
San Francisco and San Jose Railroad.....	40	45
Omnibus Railroad.....	70	—
Central Railroad	55	58
North Beach and Mission Railroad.....	69	70
Front Street, Mission and Ocean Railroad.....	11	12

BANKING INSTITUTIONS.		
California, Loan and Savings Society.....	—	—
Pacific Bank	97½	100
The Bank of California	157	158

INSURANCE COMPANIES.		
Firemans' Fund Insurance Co.....	88	90
Pacific Insurance Co.....	123½	125
San Francisco Insurance Co.....	t—	105
Merchants' Mutual Marine Insurance Co.....	500	525
California Insurance Co.....	1300	1400
Union Insurance Co.....	89	90
California Home Insurance Co.....	—	—
Home Mutual Insurance Co.....	19½	20
Occidental Insurance Co.....	72	—
National Insurance Co.....	72	—
Builders' Insurance Co.....	—	—

MINING STOCKS—WASHOE DISTRICT.		
Alpha.....	54	56
Baltimore American.....	—	—
Belcher.....	125	130
Bullion, G. H.....	18	19
Crown Point.....	48	49
Confidence.....	25	30
Chollar-Potosi.....	162	163
Daney.....	7	7½
Exchequer.....	17	18
Empire Mill and Mining Co.....	102	110
Gould & Curry.....	107	110
Gold Hill Quartz.....	50	65
Hale & Norcross.....	50	51
Imperial.....	113	114
Kentuck.....	297	300
Lady Bryan.....	17	20
Ophir.....	18	19
Overman.....	84	85
Savage.....	117	120
Sierra Nevada.....	21	22½
Yellow Jacket.....	1420	1425
Golden Rule, California.....	10	—

San Francisco Market Rates.

Wholesale Prices.

FRIDAY, Oct. 2, 1868.

Flour, Extra, ₹ bbl.....	$5 75	@$6 25
Do. Superfine.....	5 00	@ 5 50
Corn Meal, ₹ 100 lbs.....	3 25	@ 3 50
Wheat, ₹ 100 lbs.....	1 65	@ 1 90
Oats, ₹ 100 lbs.....	1 75	@ 2 25
Barley, ₹ 100 lbs.....	2 00	@ 2 25
Beans, ₹ 100 lbs.....	3 00	@ 4 00
Potatoes, ₹ 100 lbs	1 00	@ 1 25
Hay, ₹ ton.....	10 00	@16 00
Live Oak Wood, ₹ cord.....	9 00	@10 00
Beef, extra, dressed, ₹ lb.....	8	@ 10
Sheep, on foot.....	3 00	@ 3 25
Hogs, on foot, ₹ lb.....	5	@ 6
Hogs, dressed, ₹ lb.....	8	@ 9

GROCERIES, ETC.

Sugar, crushed, ₹ lb.....	12½	@ 15
Do. Cuba.....	10	@ 11½
Coffee, Costa Rica, ₹ lb.....	—	@ 16
Do. Rio.....	—	@ 17
Tea, Japan, ₹ lb.....	75	@ 90
Do Green.....	60	@ 1 25
Hawaiian Rice, ₹ lb.....	—	@ 8
China Rice, ₹ lb.....	6	@ 6½
Coal Oil, ₹ gallon.....	35	@ 40
Candles, ₹ lb.....	15	@ 17
Ranch Butter, ₹ lb.....	50	@ 60
Isthmus Butter, ₹ lb.....	30	@ 37½
Cheese, California, ₹ lb.....	13	@ 15
Eggs, ₹ dozen.....	60	@ 62
Lard, ₹ lb.....	13	@ 14
Ham and Bacon, ₹ lb.....	12	@ 18
Shoulders, ₹ lb.....	6	@ 8

Retail Prices.

Butter, California, fresh, ₹ lb.....	50	@ 75
do. pickled, ₹ lb.....	30	@ 40
do. Orange, ₹ lb.....	15	@ 25
do. New York, ₹ lb.....	35	@ 40
Cheese, ₹ lb.....	20	@ 25
Honey, ₹ lb.....	25	@ 30
Eggs, ₹ dozen.....		@ 75
Lard, ₹ lb.....	15	@ 17
Hams and Bacon, ₹ lb.....	20	@ 25
Cranberries, ₹ gallon.....	85	@ 1 00
Potatoes, ₹ lb.....	2	@ 3
Potatoes, Sweet, ₹ lb.....	3	@ 5
Tomatoes, ₹ lb.....	3	@ 5
Onions, ₹ lb.....	3	@ 5
Apples, No. 1, ₹ lb.....	4	@ 5
Pears, Table, ₹ lb.....	5	@ 7
Plums, dried, ₹ lb.....	11	@ 13
Peaches, dried, ₹ lb.....	—	@ —
Oranges, ₹ dozen.....	75	@ 1 00
Lemons, ₹ dozen.....	1 00	@ 1 50
Chickens, antece.....	60	@ 75
Turkeys, ₹ lb.....	20	@ 25
Soap, Pale and G. O.....	7	@ 12
Soap, Castile, ₹ lb.....	15	@ 16

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

FRIDAY, Oct. 2, 1868.

IRON.—Duty: Pig, $9 per ton; Railroad, 60c ₹ 100 lbs; Bar 1@1½c ₹ lb; Sheet, polished, 3c ₹ lb; common, 1½@1¾c ₹ lb; Plate, 1¾c ₹ lb; Pipe, 1¾c ₹ lb; Galvanized, 2¼ ₹ lb.

Scotch and English Pig Iron ₹ ton.....	$33 00	@$34 00
White Pig ₹ ton.....	33 00	@ 34 00
Refined Bar, bad assortment ₹ lb.....	— 03	@ — —
Refined Bar, good assortment, ₹ lb.....	— 04	@ — —
Boiler, No. 1 to 4.....	— 04¾	@ — —
Plate, No. 5 to 9.....	— 04¾	@ — 04¾
Sheet, No. 10 to 13.....	— 04¾	@ — 5
Sheet, No. 14 to 20.....	— 05	@ — 5¾
Sheet, No. 24 to 27.....	— 05	@ — 6¼

COPPER.—Duty: Sheathing, 3¾c ₹ lb; Pig and Bar, 2½c ₹ lb

Sheathing, ₹ lb.....	— 23	@ — 26
Sheathing, Yellow.....	— 19	@ — 22
Sheathing, Old Yellow.....	— 11	@ — —
Bolts.....	— 21	@ — 22
Composition Nails.....	— 21	@ — 22

TIN PLATES.—Duty: 25 ₹ cent. ad valorem.

Plates, Charcoal, IX, ₹ box.....	12 50	@ — —
Plates, I C Charcoal.....	10 50	@ 11 00
Roofing Plates.....	10 00	@ 10 50
Banca Tin Slabs, ₹ lb.....	— —	@ — 30

STEEL.—English Cast Steel, ₹ lb..... — — @ — 15

QUICKSILVER.—₹ lb..... — 55 @ — 60

LEAD.—Pig, ₹ lb..... — 7½ @ — 8

Sheet.....	— 10	@ — —
Pipe.....	— 11	@ — —
Bar.....	— 9	@ — 9½

ZINC.—Sheets, ₹ lb..... — — @ — 9½

BORAX.—California, ₹ lb..... — 20 @ — 23

San Francisco Prices of Copper Ores.

SAN FRANCISCO, Oct. 2, 1868.

We give the following as an approximate price at which copper ores can now be sold in this city. There is no sale for ores which assay less than 12 per cent. The late reduction in price is on account of the advance of freight:

		Per ton.			Per ton.
12 per cent. ore.....	$16 00	22 per cent. ore.....	$43 56
13 " "	18 02	23 " "	46 45
14 " "	20 20	24 " "	49 33
15 " "	23 35	25 " "	52 22
16 " "	26 20	26 " "	55 11
17 " "	29 12	27 " "	58 00
18 " "	29 91	28 " "	60 80
19 " "	34 90	29 " "	63 77
20 " "	37 78	30 " "	66 66
21 " "	40 67	31 " "	69 55

These prices, we believe, will be found substantially correct, and can be realized at this date.

A. T. DEWEY. W. B. EWER.

THE BEST IN AMERICA.

The Mining and Scientific Press,

Is the Largest and Best MINING AND MECHANICAL Newspaper issued in the United States.

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SAVING PRECIOUS METALS

All progressive information, in fact, transpiring with the times—which cannot be obtained from books.

The MINING AND SCIENTIFIC PRESS is now in its SEVENTEENTH VOLUME, and enjoys a large circulation. It received the following hearty endorsement of the California Miners' State Convention, held at Sacramento, January 17th, 1866:

RESOLVED, *That we regard a mining paper or journal of great importance to the mining interests of California and recommend the* MINING AND SCIENTIFIC PRESS, *of San Francisco, to the consideration and support of the miners of the Pacific coast.*

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Mining Summary.

THE following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County.

Markleeville *Miner*, Sept. 19th: From one of the principal stockholders and managers of the Rippon mine, just up from San Francisco, we learn that the ore from the ledge recently struck, assays from $14 to over $100 per ton, and that a number of tests made, show that it will work from $25 to $50 per ton. The last three feet in the ledge shows a decided improvement in the quality of the ore.

Amador County.

Mokelumne Hill *Chronicle*, Sept. 19th: Amador County is to rank as one of the best of our mining counties. Ione Valley is producing good coal, and the Newton Copper Co. have erected smelting works, and the Cosumnes Co. have also.

Calaveras *Chronicle*, Sept. 26th: After a week's run of the mill on the Petticoat mine at Railroad Flat, 75 ozs. of gold was taken from the outside plates alone. The battery has not been cleaned up, but the yield must be enormous if there is the usual disparity between the amounts generally taken from the outside and inside plates. When the fact that the mill has only been in operation a week, and that the battery is composed of but 10 stamps, is taken into consideration, some idea of the richness of the rock can be formed. The rock crushed during the month of August paid from $125 to $150 per ton. The ore now being crushed must be of even a higher grade.

Dispatch, Sept. 26th: The prospects of the Bostwick claim, on what is supposed to be an extension of the Coney & Bigelow lead, are flattering. A vein has been found from 10 to 20 ft. in width, within 15 ft. of the surface, and it is thought that if sufficient capital could be had to open the mine thoroughly, it would prove as valuable as the famous Coney mine.

A new mine is being opened, on the south extension of the Badger mine, near Sutter Creek, in this county, by Mr. Hall McAllister, of San Francisco, under the supervision of Mr. Allen Tibbets, and the rock taken therefrom is the same quality as that of the Badger, and there is every indication that it will prove fully as rich when the mine is fairly opened.

Inyo County.

The Virginia *Enterprise* of Sept. 25th, says: Henry Schoeneman who has just returned from a prospecting expedition to the mines of Cerro Gordo district and wilderness beyond, says: The Cerro Gordo mines are yielding as rich ores as at their first discovery, not only from the surface of the various veins, but at the greatest depths yet attained on any of them by the sinking of shafts or driving of tunnels. The miners now there being men who have but little ready money, the development of the leads of the country is necessarily slow, as they are unable to purchase machinery or hire laborers. They have unbounded faith in their mines, however, and are doing their own work. They have completed an excellent road from Owen's Lake to their mines, and have erected one good furnace—a furnace capable of smelting 10 tons of ore per day. This, if not a first-class furnace, is yet a great improvement upon the primitive little furnaces at first erected and still in use among the Mexicans in the district. A large bed of excellent fire-clay has been discovered near the mines. Mr. Shoeneman brings with him some extraordinarily rich specimens of silver ore; also of lead and other ores.

Los Angeles County.

Los Angeles *News*, Sept. 25th: There are about 300 men at Soledad, some of whom are running tunnels, some sinking shafts, some working arastras and some prospecting for new lodes. In the Eureka mine, they are 67 ft. down, and have run a tunnel on the vein 90 ft. The vein is 4½ ft. wide, and pays with arastras from $35 to $75 per ton. There are 14 arastras running from rock taken out of this lode, and the rock averages $45 per ton. The owners leased the sinking and drifting on the Eureka to some Mexicans, giving them all the rock they might take out in the shaft and tunnel, which is seven ft. high by five ft. wide, and the Mexicans were satisfied with their bargain. It is the intention of the owners to sink on this lode 150 ft. more, making 217 ft. in all. A tunnel was run 100 ft. into the hill to strike the Degman lode, when at that distance they struck pay rock about as rich as the Eureka. Polk & Kabler's mill will be running by the 1st. of October. It is a 10-stamp mill, running by water power. They have already dug out a sufficiency of ore to keep the mill going continuously with what they may take out. Another mill is in the course of construction, to run by water power, by Searles, Yates & Henderson. It will be a 10-stamp mill, and will be finished in six weeks. Many excellent lodes of gold bearing quartz have been discovered lately, both by Americans and Mexicans, and new discoveries are daily being made.

Mariposa County.

Gazette, Sept. 25th: We are informed that the erection of a mill at the recently developed vein of Fine, Williams & Co., on the Buckingham Mountain, is rapidly progressing under the energetic management of those gentlemen. The prospects of a rich yield from the rock continue highly flattering.

Mono County.

Sacramento *Union*, Sept. 26th: There was shipped to San Francisco, by Wells, Fargo & Co. yesterday, about five tons of crude bullion, worth about $1.50 or $2 per pound, from the furnace of Williams & Wickland, Blind Springs district, Benton, Mono County.

Nevada County.

Transcript, Sept. 24th: The mill recently sold by Marcelus & Maltman to W. M. Eddy and put up on his claims at French Corral, was started up for regular work on Monday. Eddy is working the blue cement in his claims, and he has enough stripped to keep the mill going for three years.

Thos. Bell and others have located 1,000 feet on the extension of the Jim Crack ledge at Graniteville.

Sept. 27th: The Empire mine, of Grass Valley, is now yielding magnificent rock. The mine is opened to the depth of 800 ft., and the new hoisting works which are being erected, are the finest in the State. The ledge is now larger and the rock richer than they have ever had in the mine. From three car loads raised on Friday they got $2,000 in gold.

Gazette, Sept. 23d: Quartz mining in Eureka district is in a prosperous condition. Scarcely a crushing has been made this season that has failed to yield what would be considered large pay in this part of the county. The Black and Young mill is employed constantly in crushing rock from the Brambury ledge, which is yielding largely. The last crushing from the Mutual mine did not yield as well as anticipated, but was more than sufficient to pay expenses. It will be two or three weeks before Palmer's mill will be ready to commence operations, and several companies are waiting until it is completed to have their rock crushed. Crandall is putting up a mill for Veatch and others.

Sept. 24th: The mill of the Idaho Co. is nearly completed, and will be started up in a few days.

A crushing of 120 tons of rock from the Rising Star mine, made at the Cornish mill, was cleaned up a day or two since, and the yield exceeded the expectations of the owners. About 100 tons of the rock was taken from a stringer, and was regarded as a poor quality, perhaps paying only about the cost of mining and crushing; but the last 20 tons from the main ledge, was very rich, and it is thought would have yielded, had it been crushed separately, not less than $150 a ton. In cleaning up the battery, they took out some 20 ozs. of coarse gold, some of the pieces weighing $4 and $5.

Grass Valley *National*, Sept. 22d: Wm. M. Eddy started up his 15-stamp cement mill at French Corral yesterday morning, for constant work. It will run night and day, and will be able to reduce from 75 to 100 tons of cement every 24 hours.

The Star Co., at North San Juan, cleaned up $10,000 after the last run.

Sept. 24th: The 10-stamp mill formerly used by the Ione Co. is being put up at the Coe Co's mine. The ledge at the bottom of the incline is two to four feet thick, and is now being stripped down. The rock shows well in gold, and rich, heavy sulphurets. We saw some of the rock which was very rich—the gold could be traced through the pieces very plainly.

Grass Valley *Union*, Sept. 28th: Rock is being crushed from the Diamond ledge, near the Ione, in the Gold Hill mill, and quartz from the North Star and Massachusetts Hill is awaiting its turn.

EXCELSIOR.—*Transcript*, Sept. 24th: B. Emery & Co. have located 1,000 ft. on the American ledge, Meadow Lake township. This claim is located near Excelsior Ravine.

Sept. 26th: The battery of the Mohawk & Montreal mine consists of 10 stamps driven by an upright 15-horse power engine. Everything about the mill is admirably adapted for use. The mine has been sufficiently opened to prove its value beyond question, and the enterprise is no longer experimental. The shaft is down 213 feet, and there are two tunnels piercing the face of the mountain and running toward the shaft. A new opening has been made further up the hill, and from all the openings excellent pay is being taken. The rock is mostly decomposed with an abundance of free gold, and very rich sulphuret. The ledge is from three to five feet in width, and the rock will average about $100 per ton. The mine is admirably arranged for working. From the mouth of the tunnel is a double track, on which cars run up and down to a shute, through which the ore is dumped in the mill, saving all expense of hauling. Eighteen men are now at work in the mine and a force of 30 is employed about the works of the company.

Plumas County.

Quincy *National*, Sept. 24th: A company of miners have discovered what are supposed to be very extensive and rich placer diggings, at the lower end of Buck's Valley, in this county. We also learn that a company of miners are making big wages on Grizzly Creek, near the same locality.

Sierra County.

Downieville *Meisenger*, Sept. 26th: The mill upon the Brush Creek mine has been running about three weeks, and during that time some $4,000 have been taken from the ontside plates. A large return is expected when they clean up.

Siskiyou County.

Yreka *Union*, Sept. 26th: We learn that the mines on McAdams Creek, are paying better than usual. Carroll & Co., after several months work, have struck good pay in their claim.

Tuolumne County.

Sonora *Democrat*, Sept. 26th: We hear that very rich rock is now being taken out of the Excelsior mine at Uniontown.

Yuba County.

Marysville *Appeal*, Sept. 24th: We learn that both the Pennsylvania and Rattlesnake mines are taking out rich rock, the latter richer and in larger quantities than at any previous time.

ARIZONA.

Prescott *Miner*, Sept. 12th: Work will be commenced next week at the Sterling mine.

Tunneling is still going on at the Chase mine, in the Hassayampa district. A shaft is being sunk upon the Platanca lode, and the "concentrators" are in high glee.

The miners of Walker's district are working away, and don't intend to clean up until the water dries up.

The other day, Bob Osborn gave us a squint at a chunk of gold about as big as a common-sized plum, which he recently found in his claim at Big Bug.

A friend who is now and has been for a long time past, at work in the Vulture mine, informs us that the lode was looking well. Smith's claim was yielding plenty of good rock, and tons upon tons of the same sort were in sight. The Vulture Mining Co's claim was also yielding very rich ore, and last week the workmen struck a pocket of very rich specimens.

Santa Fe *Gazette*, Aug. 29th: Abraham Lyon, of Tucson, Arizona, visited our city last Saturday, and brought with him some of the finest specimens of gold bearing quartz it has ever been our fortune to see. The quartz is white or rose colored, and is not what would be styled the "burnt quartz." In the specimens seen by us the gold is very easily seen by the naked eye and in some instances beautiful clusters of wire gold, and pretty good sized chunks are seen.

Virginia *Enterprise*, Sept. 25th: Herman Schoeneman who has been on a southern prospecting tour, returned yesterday. His last exploit was an adventurous expedition with a party of 15 men to Arizona and into the Apache country. Although the Indians hovered about them continually, and either attacked them or made some sort of demonstrations against them daily, the party succeeded in penetrating far into their country, and discovered a region which they believe to be as rich as were those of California in early times. In one place Mr. Schoeneman obtained three bits in washed gold in coarse grains from a single pan of dirt, carrying the dirt 15 miles to wash it. The dirt was not scraped from the crevices of a ravine, but was taken from a hill of gravel. Water could be got upon these gold fields and immense fortunes taken out of the diggings but for the relentless hostility of the Apaches. No small party can stay in the country.

COLORADO.

Central City *Herald*, Sept. 9th: J. A. Conlee is putting up a new building and hoisting rig over his claim on the Burroughs. He is still running his Galena mill on ore from the Burroughs, which yields at the rate of $200, gold, to the cord.... Mr. Cameron, who is working on North Clear Creek, has struck a very rich pay streak. He has his claims in better shape for working advantageously, than ever before, and expects to take out a large amount of gold before the close of the mining season.... The silver lodes in the vicinity of Black Hawk are attracting no little attention. We are informed that there are, at least, 150 men prospecting and developing the silver mines of this section.... Mr. Richard Glennan, who is working his own property on the Mack lode, showed us a chunk of retort this morning which will weigh about eight ozs., the product of two cords. He is running it in the old Wilson mill, Ed. Moore proprietor. The Mack is looking well, having a wide vein of pay which is easily taken out. ....Hindman, Sherrick & Pennison have discovered a new lode, just below East Nevada, which bids fair to outstrip anything yet discovered in that immediate vicinity. At a depth of 20 ft. they have a 5-ft. crevice of quartz and pay dirt, which yields $120 per cord. This is not a selected quality of quartz but may be safely taken as an average of the crevice matter. Mr. Tascher, of Eureka Gulch, has engaged all the quartz they can raise.

Central City *Register*, Sept. 17th: Two lots of ore from the Champion lode, Trail Run, recently reduced by C. T. Sahin, at the Whale mill, yielding respectively $35 and $105 per ton, getting, in both cases, more than 80 per cent. of the gold which was shown, by careful assays, to be in the ore....One ton of ore from the Star of the West mine, at the head of North Boulder, is being brought over to be reduced by Prof. Hill. Prof. J. Alden Smith has made several assays of the ore, running from $25 to $60 per ton....The Narragansett mine on Gregory Hill, under the superintendence of F. J. Sweet, is turning out about 18 cords of ore per week, which yields from $140 to $180 per cord....Andrew Mason & Co., at Empire, are mining the Knickerbocker mill on Tenth Legion ore, and is getting very good results. There are also four arastras in operation there. They have been running all summer, mostly on surface ores from the Conqueror and other neighboring lodes, and the results have been very satisfactory. There are many very promising lodes at and about Empire, and a large amount of very rich ore has been raised and reduced there.

Georgetown *Miner*, Sept. 10th: The German Reduction Works started up again on last Tuesday.

John T. Herrick shipped on Tuesday last, 126 lbs. Troy, of silver bullion, coin value $2,041.20.

Isaacs & Merrill are developing the Wall Street lode, Montana district, nearly opposite the Young America. They have a 10-inch vein of decomposed talc rock, carrying sulphurets of silver in abundance. The lowest assay ever obtained from the ore was 800 ozs. of silver to the ton, and the highest $3,584. A small lot of this ore has been taken to the German Reduction Works for treatment.

IDAHO.

Lewiston *Journal*, Sept. 5th: The Roberson party of prospectors who went to search for the mythical gold lead, have returned. They report having found no lead, but did find gold almost everywhere that they prospected in the gulches and on the streams, however in not sufficient quantities to warrant their remaining to work.

Peter Donnolly has lately been on a visit to Altaras. He informs us that there are many large and rich quartz lodes in that county, with excellent facilities for working them, but little is being done at present.

Owyhee *Avalanche*, Sept. 19th: Another rich quartz discovery has been made on the mountain to the left of Jordan Creek, about 2½ miles from town. Reagan and others are the locators, and have christened the discovery the Seymour. The vein is represented as being from three to four feet wide, and prospects rich in both gold and silver. The quartz is decomposed, and large quantities of it can be easily taken out.

A shaft is being sunk on the new discovery called the Savage. The quartz appears to contain a large proportion of gold the deeper it is worked. The vein has also been struck in the gulch south of the discovery shaft, and prospects well. The parties owning the first extension south of the Savage will commence work next week.

MONTANA.

Helena *Post*, Sept. 18th: Day before yesterday, F. Bohm & Co. smelted 1,400 ozs. of gold, valued at $24,517.37 in gold coin. A portion of this consisted of an immense gold brick, weighing 1,000 ounces, and valued at $18,195.33 in gold coin.

Claims Nos. 9 and 10, above Discovery, in Last Chance Gulch, above Chinatown, are paying well. This ground has been

long considered valueless, but is now turning out from $12 to $14 per day to the hand, with the prospect that it will keep on doing so for a long time to come.

The Hendrie & Woodworth Mill and Mining Co., Rochester district, is now energetically at work, and is one of the finest in the Territory. The "clean up" for the last two weeks was 300 ounces of retort, which has been forwarded to Helena. The The above is the result of only two weeks' crushing with their 8-stamp mill on ore from the Watseka lode.

After working three days on the Poor Man's Joy lode at Phillipsburg, a portion of the machinery of the St. Louis & Montana Co's mill broke, and it was obliged to suspend operations. At the time that the break occurred, the amalgamator declared that the amalgam looked better than he had ever seen it after a run of the same length of time in any mill or upon any rock.

The drain ditch in Confederate Gulch, which was caused to cave in by a flood of water early in the summer, and the famously rich claims from which it draws the moisture, are yielding up their golden treasures in a fabulous manner. During the last week, Williams & Co. were taking out $1,000 to the set of timbers, and at about the same time Metcalf & Co. cleaned up $1,500 from three feet square of earth taken from the bed rock. All the other claims in the vicinity are doing exceedingly well. The nearer the work is prosecuted to the mouth of Montana Gulch the richer grows the pay, and the most sanguine golden dreams seem about to be realized. Work in the bed-rock flume in Montana Gulch has been suspended, as it was feared the tailings might interfere with the workings of the claims in Confederate. Work upon the King & Gillette bed-rock flume is being prosecuted. Between it and El Dorado Bar in Confederate Gulch the drain ditches are being opened, and will probably reach bed-rock before the winter. El Dorado Bar itself has been sufficiently worked to prove it one of the richest gold deposits in the Territory. Three weeks ago, the California Co. worked upon it—cleaned up $2,200, this being at the rate of $30.40 to the man for every day that had been employed in setting boxes and pipe and washing. The giving out of the water compelled a temporary suspension of operations.

The Omaha *Republican* says that on the 20th there were in the window of the Omaha National Bank five very beautiful gold bricks, which had been purchased the day before of miners down from Montana. Their aggregate weight was 518 ounces, and they were worth $9,378.63.

The Virginia *Democrat* says Henry Gowing and partner discovered a quartz lead, supposed to be very rich, in Brown's Gulch.

The Deer Lodge *Independent* says that $3,000 was recently paid for 25 feet of ground in Bear Gulch, and $10,000 offered for a half interest in another claim.

NEVADA.

Humboldt.

Winnemucca *Argent*, Sept. 24th: Mr. Negus brought down 20 lbs. of crude bullion for shipment, Tuesday last—the product of a week's run from the Golconda ledge.

Reese River.

Austin *Reveille*, Sept. 19th: The camp at Ophir has suddenly lost its activity by the closing of the works of the Twin River Co.

Sept. 21st: David Lundbom received today for assaying, five bars of bullion from the mill of the Monte Cristo Co., at White Pine. The bullion is the product of ore obtained from the Hidden Treasure mine, and the bars average .975 fine.

The mill of the Silver Peak and Red Mountain Co., Silver Peak district, is to be enlarged by the addition of ten stamps, and the proper amalgamating apparatus.

Sept. 24th: Yesterday afternoon, 3,000 ozs. of crude bullion were brought into this city from Rigby's mill, in the district of San Antonio.

Two bars of bullion, valued at $1,731.51, were brought into this city to-day from the Old Dominion mill at Hot Creek.

The Virginia *Enterprise* of Sept. 27th, says: We think there can be very little doubt that the White Pine will prove one of the richest mineral districts in our State. The extent of the veins or their permanency can not yet be conjectured with any degree of certainty; but as to the richness of the silver deposits already developed, we have the most undoubted assurances. Large deposits of "horn silver" have been discovered as far down as the miners have yet explored, and in some instances these strata are marvellously rich. The Treasure mine is yielding about $20,000 a month from rock with very poor facilities for crushing; whilst nearly all the companies are storing their richest ore for shipment, or until such a time as reducing conveniences shall have been obtained. We are told by a gentleman who has spent some time in the district, that White Pine reminds him very much of the early placer times in California. A stranger, who announces his intention of prospecting, can procure all the credit he wants from the merchants, who accept the ore in payment. There is no difficulty in opening to pay ore, and the superficial wealth of the section seems to be extensive and accessible. Our informant says that the "horn silver" is composed so largely of the precious metal that it readily receives the exact impress of a coin when stamped upon its surface. There is considerable dispute in regard to ownerships, but not so much so as we have been led to surmise. Litigation will doubtless reap a rich harvest, but as far as we can learn, the mere rough jumpers will not be permitted to hold claims to which they have only a possessory title based on force. The miners are waiting anxiously for the completion of smelting works, now being erected by J. R. Murphy, at White Pine. The "horn ore" is so largely impregnated with silver that the crushing process has no effect upon it, and it is believed that the metal can be readily separated by the smelting works alluded to. Should this prove to be the case, it will be turned into bars on the spot; if not, it will be shipped to Swansea. Timber is plentiful in the district, and firewood costs but $3 a cord. The accommodations are not sufficient to meet the requirements of the population, and unless a large portion of the people already in the district select winter quarters elsewhere, there will be much suffering before spring.

Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Virginia *Enterprise*, Sept. 24th: The new Ophir shaft has now attained a depth of 450 feet. The rock is still very hard, but sinking progresses at the rate of twelve ft. per week, notwithstanding. The Giant powder is used in blasting, and is found to be the best explosive that has yet been used. Nitro-glycerine was used for a time, but the workmen were so much afraid of it that its use has been discontinued, and the use of the Giant powder resumed.

Sept. 25th: The Savage Mining Co. will shortly put up one of Root's patent blowers, with which to furnish a supply of fresh air to the workmen in the lower levels.

A gold brick worth $9,442.74, from the Wilson mine, Pine Grove, was night before last shipped from the office of Wells, Fargo & Co., in this city. The Wilson mine is the best gold mine in this State, though in the same district there are several other leads of gold-bearing quartz that promise soon to rival it in productiveness.

The total shipment of bullion during the past week from this city and Gold Hill, was 7,029 pounds, worth $168,764—1,044 pounds and $81,123.20 less than the week previous.

Sept. 27th: The Overman Mining Co. have started up the works of the Uncle Sam in order to drain the shaft of water. When this is done they will open connections between the Overman and Uncle Sam for the improvement of the ventilation, and will also use the Sam shaft for hoisting ores.

The horse railroad of the Crown Point, Yellow Jacket and Keatuck mining companies, at Gold Hill, for the purpose of carrying the waste dirt to some distance from their respective mines, is complete and in operation. By the new arrangement the waste rock is carried to a spot at such a distance from the mines that it is out of the way of all mining operations. It was necessary to adopt some such plan, as the huge dump piles of the mines were in a fair way to overwhelm and obliterate the pent up Utica known as Gold Hill.

NEW MEXICO.

Santa Fe *New Mexican*, Sept. 1st: We have before us a report of an assay made by Brown & Co., assayers in this city, of some quartz from the claims of John D. Baker, of the New Placers, which yields $130 to the ton. This lead, with others near it belonging to Messrs. Cooley & Co., was believed to be rich, was known to be good. The assay of the quartz from it proves it not only to be rich, but very rich.

The Arizona *Miner* of Sept. 12th says that a gentleman, a resident of the Cimarron country, New Mexico, writes to a friend in this city advising him and his friends to stop right where they are. He says it costs a pile of money to open a mine at Cimarron, and that every claim is not rich.

OREGON.

Jacksonville *Sentinel*, Sept. 19th: Last Sunday a miner named Wm. Harriott, found a chunk of gold on Applegate Creek, near Steamboat City, that weighs 41 ozs., and is worth about $680. This piece is on exhibition at the banking house of C. C. Beckman. Another weighing 69 ounces, was taken out on Saturday.

Dalles *Mountaineer*, Sept. 11th: The Cañon City correspondent writes: For the last few days Canon City has presented quite a lively appearance, occasioned by the recent discovery of new diggings which promises to be very rich, outstripping anything yet found on the waters of the John Day. It has long been known that gold existed on what is known as the left hand branch of Cañon Creek, but for various reasons the stream was never prospected, until recently. Some time since a party left this place on a prospecting tour, and after rambling about for some time, concluded to try this creek, and the result is, they have struck it—30 cents to the pan and no bedrock yet; the prettiest gravel in the world, and every indication of very rich diggings. Arrangements have been made for thoroughly prospecting the creek.

The new camp at Burnt River is creating considerable sensation. That rich diggings exist on Burnt and Powder rivers, is no longer a question of doubt, and many are leaving for these camps. The scarcity of water will retard the developing of that section this season, but this will be overcome by next season, as there are two large ditches now under way, and will be completed this fall. It is conceded that Burnt River will be one of the best mining camps east of the mountains.

The news from Elk, Granite and Olive districts are quite cheering. The present season has been quite remunerative so far, and promises a continuance.

WYOMING.

A letter from Summit, Aug. 3d, published in the *Frontier Index*, says: The gold fever is at blood heat. New discoveries are being made every day or two. One man came in from the south base of Elk Mountain this morning with $780 in dust, which he had worked out in seven days with the aid of nothing more than a pick and frying pan. I was in Laramie City when he arrived. The report caused great excitement. A company has been organized, and a large party will leave to-morrow for the rich diggings, 60 miles northwest of Laramie, are producing a handsome yield.

Coöperative Colonization.—The Becket lumbermen's and tanners' colony planted by Wheeler and Claflin in the wilderness at Caroga, New York, prospers. Three lumber mills are running, and the large tannery has been put into successful operation. To the 14,000 acres contained in the first purchases of land, 1,000 more have been recently added. The old army road, cut through the region in 1812, has long since fallen into disuse, and is grown up with trees. It was some time ago rebuilt four miles, and is now being made through to the Sacanadaga river, the whole distance nine miles, being across the territory owned by Wheeler and Claflin. The erection of another large tannery will be begun early in the fall. The settlers were obliged to send a distance of eight miles for letters, but have recently established a post-office at their principal settlement, named Pine Lake.—*Industrial Gazette.*

The New Atlantic Cable.—The termini of the new French-American Atlantic cable will be Brest, in Europe, and the French island of St. Pierre, off Newfoundland, and thence probably to Plymouth, Massachusetts, on the American side. The first of the two sections composing the line, from Brest to St. Pierre, will be 2,325 miles long, and the second, from St. Pierre to the United States, 722 miles. The cable from Valeutia to Newfoundland being less than 1,900 miles, that to St. Pierre is much longer, but it is conjectured that by giving a greater weight of copper to the conductor, messages will be transmitted with equal speed. By the contract the cable is to be shipped next June, and the line is expected to be opened for traffic in the course of 1869. The French Government made their concession to D'Erlauger and Reuter, binding itself not to grant any other for twenty years, dating from September 1st, 1869. The company formed by these gentlemen is mainly composed of Englishmen.

Several patents have been recently taken out in Australia for the preservation of Australian meat for exportation, and various establishments of this kind have commenced operations, and are reported to be rapidly extending their business with the mother country, and with Hamburg.

Automatic and Telegraphic Signaling in Mines.—The objection to telegraphic communication underground is its expense and liability to derangement. Mr. Fred. Gisherne has invented automatic signals for ships, and appreciating the importance of providing equal facilities for communicating from various points in a mine to the engine driver, he has prepared a modification of the same, in order to render it applicable to mines. The apparatus consists essentially of a balance-chain, working around indented pulleys, each pulley being placed in the center of a dial, and furnished with an index, the connection being so made that neither of the pointers can move without all the others adopting a precisely similar course. It is supposed to let the dial "men," "up," "stop," "down," "men," respectively, and whenever either one of the pointers is directed to say "up" the engine-room bell gives the proper signal, and every pointer in the connection is at the same instant turned to "up" also—in fact, the dials may be lettered to suit any kind of wording that may be considered necessary. For economy and convenience it is proposed to substitute, wherever any straight lengths occur, ¼-inch iron rods for the chains. As the weights in the engine-room and at the other end of the rods exactly balance each other, the index has no tendency to return to any zero, but remains at whatever point it may be set—a circumstance which it is considered would be of immense advantage in case of an accident, from the facility it would offer for determining upon whom the blame, if any; rested, by affording conclusive evidence as to whether an order had been carelessly given, or had not been properly acted upon.

It is proposed not only to apply these signals in the shaft, but also in inclined planes, and in levels, indexes being provided at short distances, so that in case of accidents, such as the trams getting off the rails, the lad in charge can instantly communicate with the engine-man, and prevent the damage which would otherwise be inevitable. The special advantages claimed are that a single connector (composed of ¼-inch diameter rods, with chains and angles) is required to transmit orders and receive replies between any number of communicators and indicators, all of which work in perfect unison; the connecting rods (having balance weights at each end thereof) take up any slack, or yield to contraction, so that when once fixed they continue self-adjusting, and for like reason they transmit signals steadily, but little power being required to move them; the pointers and transmitting handles of every communicator and indicator can be quickly adjusted to the center of a common order by simply turning the ontside binding screw, which holds them in position. The apparatus is so simple in design, that any ordinary mechanic can fit it; and the cost price is small, and fitting inexpensive.

Farm Lands and Farmers.—Many people seem incapable of thinking for themselves. Such men require a leader, one of bolder and wider scope of thought; one who can originate and plan. But so soon as one or two men of this stamp take the initiative, with any degree of success, they are immediately brought face to face with a host of imitators. The Kilbourn Bros., of Napa City, last fall purchased 444 acres of unimproved land for two dollars and a half per acre, or $1,110 for the tract, which is situated in the San Joaquin Valley, eight miles southeast from Antioch. Of this quantity, 320 acres was seeded to wheat, and 124 acres were summer fallowed. They have sold the yield of the 320 acres for $20,000, and resold the entire tract for $15,000, making a clear gain of $14,810 on the land alone, and probably as much more from the wheat.—*Commercial Herald.*

Nevada Springs.—A chemical analysis of the waters of the Steamboat Springs of Washoe Valley, show them to contain in various proportions the chlorides of sodium and magnesium, with soda in different forms, lime, silica, and a small percentage of organic matter. Similar tests made of the water from other springs disclose nearly the same constituent salts, with the addition in some cases of sulphur and iron. Some of the cold springs, especially those found in the larger valleys, are quite as remarkable for their depth and dimensions as the thermals.

MINING AND SCIENTIFIC PRESS.

W. B. EWER.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

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Our Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

MR. A. C. KNOX, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1868

DR. L. G. YATES is our duly authorized traveling agent. July 6, 1867

MR. A. B. Butler is a duly authorized traveling agent and correspondent for this paper. July 15, 1867.

Resident Agents.

CENTRAL CITY, C. T.—Messrs. Richards & Crane, of the City Book Store, Main street, will act as our agents.

GEORGETOWN, C. T.—John A. Lafferty, Postmaster, is our agent in this place.

DENVER CITY, C. T.—Messrs. Woolworth & Moffat, are our agents for this place.

CHEYENNE, D. T.—Mr. Robert Beers is our authorized agent for this place.

OMAHA, N. T.—Messrs. Barkalow & Brothers, are our agents for this place.

San Francisco:

Saturday Morning, Oct. 3, 1868.

Notices to Correspondents.

DISINFECTANT.—Oxygenated water, or as it is frequently termed, "peroxide of hydrogen," would no doubt prove efficacious in destroying in many cases, miasmatic and contagious influences. This compound was first discovered by Thenard, in 1818, who obtained it by dissolving the peroxide of barium in muriatic acid and water, and afterwards adding sufficient sulphuric acid to precipitate the baryites in the form of the insoluble sulphate. On several repetitions of this process, the excess of oxygen of the peroxide of barium becomes transferred to the water, and the latter becomes eventually saturated with oxygen. There are, however, many difficulties attendant on the execution of the operation, so that it has seldom been successfully repeated. Thenard considered the extraordinary compound so formed as a definite combination of one atom of hydrogen to two of oxygen; others surmise from its properties and mode of formation that it may be an aqueous solution of liquid oxygen. Peroxide of potassium, sodium, strontium, or calcium, when treated similarly to peroxide of barium, will produce similar effects. When black oxide of manganese purified by boiling in water from metallic chlorides, is mixed in a corked flask with three-fourths of its weight of fuming sulphuric acid and six times its weight of water, and the mixture left to stand; the watery liquid acquires an odor resembling that of chlorine and the property of blenching linen.

CRUCIBLE, Grass Valley.—Artificial graphite or plumbago is occasionally found eliminated from crude cast iron after solidifying, especially in those cases where that metal, as it flows from the furnace, is highly charged with carbon. In such cases, the plumbago will be found in metallic shining laminæ. Graphite in a similar state may be produced by mixing two parts of iron filings, one part of black oxide of manganese, and one part of lamp black, and heating the mixture to whiteness in a crucible. When cast iron, intersected with laminæ of graphite is dissolved in aqua regia, the graphite remains, mixed with gelatinous silica; the latter can be removed by a solution of caustic potash or soda and repeated boiling with water. When cast iron of this description is melted in a crucible, the iron runs off from the graphite, and the laminæ of that substance may be separated from the iron still adhering to them, by reducing them to powder, and removing the iron by a magnet. In this manner, according to Sefstrom, the iron may be almost wholly removed from this species of artificial graphite without the employment of any acid for this purpose. From the fact just stated, Sefstrom concluded that iron did not necessarily form an essential constituent of graphito, as was formerly supposed, but is simply associated mechanically as an accidental ingredient. A specimen of natural graphite, examined by Wollastou, contained mangauese.

CONTINENTAL Life Insurance Company, 302 Montgomery street, corner of Pine.

Inventions and Inventors.

It is a matter of no little wonder to many persons that so many patents for new inventions are taken out yearly, and that each year the number of issues is greatly increasing. Many persons seem to think that the subjects for patents will soon be exhausted, and the inventive genius of our country will no longer be needed. It is true that real inventions are, at the present day, very few; but the world is full of machinery which can be improved and altered so as to be rendered more effective and economical in its working. Every new invention stimulates the inventive mind, and the piece of mechanism which, in the hands of the first inventor does its work sluggishly and imperfectly, is built upon and improved by other minds until it soon reaches a state of great perfection. Almost every part of any machine is susceptible of many changes, and each change, if new and important, is susceptible of being patented. First establish a ruling principle in any of the branches of industry or science, and many minds stand ready to take up the theory and put it to a practical test, and by experiment improve it until it becomes a thorough and perfect rule.

Little did Franklin think, when he sent his kite up among the warring clouds, and by means of a common door key, "stole their lightning," that he was developing a germ that would finally, after passing through the hands of inventive persons, become one of the greatest blessings known to the world. To-day, wires encircle almost the entire globe, and the same fluid that Franklin then invoked from the clouds, carries our messages almost with the speed of thought around its circuit. All this was not done by Franklin; yet his first discovery was the ground-work upon which other practical minds labored and produced the present results.

Since the introduction of steam as a motor, innumerable inventions have been discovered with that idea as the base, and the result is, the world has been knit together, as it were. Where our early settlers were compelled to trudge for six weary months over a sandy and desolate plain to reach the Pacific Coast, we can now jump on board the cars, and by the aid of steam be propelled almost on the wings of the wind a great portion of that distance, and before long we expect to be able to make the entire trip by the same means. This same power has been made to propel our largest vessels across the broad ocean, and a voyage at sea which formerly occupied the greatest portion of a year, can now be made in a few weeks, transporting the productions of one nation to the ports of another.

Little, too, did James Watt think, when, in his boyhood he sat in his familiar corner near the fireside, and took his first lesson in the properties of steam from watching the lid of his mother's tea-kettle dance merrily up and down, that he was originating an idea or principle, that in time would revolutionize the entire workings of the world. Upon that principle alone are based innumerable patents,—and yet perfection is not attained, and years to come there will, without doubt, be still further and notable improvements made in the uses and application of this motive power.

These inventions tend to move the world along at a greater speed, and confer a benefit on mankind that cannot be underrated, though they rarely reward the inventors. The mind of one man is not capable of grasping in a single lifetime the many and various plans and constructions necessary to a complete working of any principle, and as a consequence some other genius, taking up the ravel where the first discoverer drops it, improves and simplifies the construction, thus producing a more complete arrangement, and receiving all the benefits and reward.

Besides those already mentioned, the world is full of inventions of small articles, which help to increase the comfort and convenience of the people. Among these we may class the sewing machine, and the various portions of machinery for producing cloth from the raw material, besides innumerable other small and useful labor-saving machines,—all of which are capable of being greatly improved, in simplicity of construction and economy in working.

In this State we have made a specialty of producing inventions and improvements in machinery for saving the precious metals, and our inventors have generally been successful, as a visit to our interior mining counties will show. There we see the improved quartz mill, with its huge stamps crushing the rock which has lain perhaps for ages, and by means of the proper machinery and processes the precious metals are extracted,—and all this is the result of a home genius, which is daily growing more proficient in the principles which are involved in this branch of our industrial pursuits, and as a natural consequence, we may expect soon to gain such a proficiency as to enable us to work our ores to within a mere fraction of their assay value. Formerly, when our mountains teemed with prospectors, and gold was found in every gulch and on every bar, when the only machinery used to gather the gold from the sands, were the mining pan, the sluice-box and the long-tom,—when miners packed their dirt on their shoulders a mile or more to wash it, only a small proportion of the gold was saved; but now we see the mining ditch crowning the mountain top, and, winding down around its base, conveying the water to the very spot where it is required, and rushing down through the sluice and over the patent riffle boxes, and other appliances, depositing the precious metals in the very spot where the inventor intended it to be; and by the use of the hydraulic hose, the very mountains are in a short time leveled with the plain, and their hidden wealth gathered up to repay the hardy miner who has by the severest toil brought it to light.

While our mining interests have been so well cared for, the agricultural interests have not been neglected. We have, in this State, produced several important and praiseworthy inventions for cultivating the soil, which should not be overlooked. California is naturally rich in all that is requisite to make a great producing country, and all that is required to free the farmer from the heavy expense necessary for labor, is to produce the mechanical apparatus which is adapted to the peculiar products of our climate. It is estimated that the maturing crops of wheat in this State will yield upwards of twenty-five million bushels. The labor necessary for the production of this immense crop could not have been found in all our State, were it not for the inventor, who has supplied labor-saving machinery in every department of agriculture. It must be admitted that the improved agricultural machinery has added tenfold to the working capacity of our population in this department alone. The inventive talent of this State is not behind that of any other; if anything we may say that the old adage, that "necessity is the mother of invention," has operated to bring out more new and practical inventions, according to the number of our people, than that of any other State in the Union, and in importance and merit, they rank as first class among the inventions of the age.

We shall refer again to this subject of inventors and inventions, especially to those pertaining to this coast.

STATE FAIR.—The allotted number of days having expired, the State Fair has been brought to a close. The breed of running horses exhibited was the most noteworthy feature.

Chlorination Process on Silver Ores.

Mr. O. Hoffman, of the firm of Kustel & Co., left San Francisco on Tuesday's steamer for Sonora, Mexico, to introduce the chlorination process at the La Dura mine, on the Yaki River. The ore of this mine consists principally of argentiferous zinc-blende, fahlore, and some lead. Heretofore the ore was roasted in two revolving Brueckner's furnaces, with ten per cent. of salt, and then amalgamated in Varney's pans. The amalgam obtained from this operation is so heavily charged with base metals, that the retorted metal is not salable unless cupelled, whereby again some loss of silver must be suffered. There is from six to eight per cent. of copper in the ore, which, at the present mode of working, can not be realized.

The revolving furnaces are said to work to the satisfaction of the owners, and to require a great deal less labor, and only one-half of the usual quantity of fuel consumed in reverberatory furnaces. Mr. E. B. Smyth has succeeded in lining these furnaces with bricks in such a way that there is no trouble whatever in their use. To weaken the destructive influence of the chlorides, formed in roasting, some lime is added; but although the lime counteracts to some degree the loss of quicksilver it is nevertheless enormous, ranging from ten to fifteen pounds to the ton of ore. It is a matter of course that the pans are rapidly destroyed. Another inconvenience is the exposure of quicksilver and amalgam to the louging eyes of the Mexican laborers, who cannot help to come into contact therewith when there is the least necessity for it.

In order to gain the copper besides the silver, the company decided to try the chlorination process, and were so much pleased with the result,—which gave $81 per ton, while only $60 was obtained by pan amalgamation,—that Mr. Hoffman was engaged to accompany Mr. Smyth, and to start the chlorination without delay. The metal extracted by chlorination was .936 fine. Several tons of old scrap iron were shipped for the purpose of precipitating the copper.

DISCOVERY OF RICH QUARTZ VEINS IN NEW ZEALAND.—The last steamer from Panama brought papers announcing the opening in New Zealand of some of the richest quartz mines of the world; being situated on the northern island, sixty-five miles from Auckland. The Hunt mill, with four stamps, in two weeks, turned out 10,700 ounces of gold, .920 fine, worth $19 per ounce, and $203,300 in all; probably from selected ore. As a stamp crushes usually less than two tons per day, it is assumed that not more than 100 tons of quartz were crushed in the fortnight, making the yield $2,000 per ton on an average.

The Golden Crown extracted $19,000 from sixteen tons of quartz; the Bank of England $380 to the ton; the Eureka $170 to the ton; the Tookey $80 to the ton; and the Albarnia $950 from 115 pounds of quartz. The last, of course, was from a pocket, for it is at the rate of about $18,000 to the ton, and if they had much quartz of that character, they would not stop after crushing 115 pounds.

New Zealand began to produce gold in 1858, and for three years exported about $500,000 annually; in 1861 the sum suddenly rose to $3,600,000; in 1865 it was 11,000,000, and the production has continued at about the same rate since.

COMMERCIAL.—The French barque Guayaquil, has had her charter for dye woods from Altata, Mexico, to Cowes, cancelled, by reason of the unfriendliness existing between the French and the Mexicans, and has since accepted a charter to load lumber at Burrard's Inlet, British Columbia, for the west coast of South America, thence with nitrate to the United Kingdom, upon terms reserved.

Mining Titles--The Mineral Land Act to Cover Placer Claims.

The following decision of the Land Commissioner, is of great importance to the mining interests of the country:

DEPARTMENT OF THE INTERIOR, GENERAL LAND OFFICE, Aug. 28, 1868.

Register and Receiver United States Land Office, San Francisco, Cal.—GENTLEMEN:—This office has received a letter from A. Casselli, of San Francisco, President of the "Cherokee Flat Blue Gravel Company," incorporated under the laws of California, requesting to be informed whether said Company can obtain a patent for their claim under the mining Act of July 26th, 1866. In reference to the subject, the following is communicated: The mining Act provides for patenting veins, or lodes of quartz, or other rock in place, bearing gold, silver, cinnabar or copper, but furnishes no definition of the terms vein or lode. In geology and among miners they imply generally an aggregation of metallic matter found in the fissures of the rocks which encloses it, but are of great variety, veins differing very much in their formation and appearance. Lode is a term in general use among the tin miners of Cornwall, in England, and was introduced on the Pacific coast by emigrants from the Cornish mines, and signifies a fissure filled either by metallic or earthy matter. In Nevada the term ledge is usually employed in regulations concerning mines, and in Montana the terms lead, lode or ledge are similarly used. Ledge would seem to convey the idea of a layer or stratum of metal interposed between a course or ridge of rocks. Veins may be either sedimentary, plutonic or segregated, or of infiltration or attrition, depending upon their peculiar formation, or the mode of occurrence of the metallic deposits. In California, the ancient river channels, or what are supposed to be such, found in various mining districts, filled with a compact blue gravel rich in gold, are called the "blue lead," and frequently, in common parlance, the "blue vein." Even the shallow "diggings" or placers, are sometimes found to occur in such regular layers or courses as to receive from the miners working them the names of veins or leads. There is also another form of deposit of all or of some of the four metals mentioned in the mining Act, different from either of those mentioned above, called contact-deposit. European miners mention still others, called in England "Floors," in Germany "Stockwerke," and a form of deposit known as "Fahlbands." These latter are more properly speaking, ore-bearing belts, irregular in their dimensions, but presenting a degree of parallelism with each other. Neither is the mode of occurrence designated as "contact-deposit" considered as a true vein or lode. In fact, if the question were raised, neither of the forms known as contact-deposit, Fahlbands, or segregated veins, could be accepted as true metalliferous veins, nor could it be made to appear without expensive excavations, whether the metal in the mine for which a patent is applied for occurs in the form of a true vein or not. Hence we discover that a very strict construction placed upon the terms used in the mining act, would exclude from its benefits a large class of claims, even of the branch of rock mining, from the impossibility of proving the metallic deposit to occur in the form of a true vein. But there is no reason for supposing that the terms were employed according to their strict geological signification. The plain object of the law is to dispose, for money value, of the mineral lands of the United States, and if the claimant is willing to pay the price named in the Act it is clearly a matter of indifference to the Government whether the metal occurs in the form of a true or false vein, or whether in the form of a vein at all. There is certainly no public policy to be subserved by favoring one class of miners and excluding others, nor has the Commissioner ever heard any reason assigned why vein mines should be patented, and other deposits excluded from patent, nor any intimation expressed that such was the intention of the Act. An idea may have prevailed at the time of the passage of the law that the placers were becoming exhausted, and that their claimants did not care about buying the land or obtaining patents; or it may be that the act was drafted mainly in view of localities where placer mining constitutes a very inconsiderable branch of the business compared to rocky mining, and hence the phraseology of the act seems to have more direct reference to vein mining than any other branch. But whatever may be the cause of the phraseology adopted, it is very evident to the mind of the Commissioner that no purpose or design existed in the minds either of the framers of the bill or the Congress that passed it, to exclude any class of miners that chose to avail themselves of its provisions. Consequently the law should receive the most liberal construction that the language will admit of, and every class of claims that, either according to scientific accuracy or popular usage, can be classed and applied for as a vein or lode, may be patented under the law. It may be observed as an important point that no proof is required to establish the vein formation of the deposit, the law evidently contemplating none. It requires the Surveyor-General to certify "to the character of the vein exposed;" but that is understood to mean that the certificate should show whether the exposed vein contains gold, silver, cinnabar or copper, as it would frequently be impossible for the Surveyor-General, even if his knowledge of mineral veins were sufficient to render him otherwise competent, to determine whether the deposit conformed to one class of veins or the other, or whether it was a true vein at all, without extensive excavations - a requirement certainly not contemplated by the Mining Act.

The applicant claims a certain number of feet along the vein or lode, and as much surface ground on either or both sides of the same as is necessary for the convenient working of the mine. He may claim as many feet as the local law or mining regulations permit him to hold, not inconsistent with the Act of Congress, and as much surface ground as he needs, taking care not to conflict with any other claimant. The case being presented in this form no proof is necessary to show that the deposit appears in the form of a vein, the phraseology of the act appearing to render it evident that the claimant was not to be put to the necessity of producing such proof; the evidence called for being confined to the posting and publishing the necessary notices and diagrams; to proving the local mining customs; the location of the claim; possessory rights of the applicant, and the amount expended in actual labor and improvements; which, being satisfactory, and the Surveyor-General having made a proper survey and plat of the claim, with the required indorsements and certificates, a patent must issue to the applicant.

No reason is perceived why a blue gravel lead might not be presented in this form, both in the application and on the diagram and plat, and being presented, if the applicant is the *bona fide* holder of the claim, and it is clear of conflict, it will be patented to him without any proof being required as to the mode in which the deposit occurs.

To conform to the language of the Act, however, the claim must call for so many feet along the lead, and a given quantity of surface ground on one or both sides of the same.

You will please to communicate to Mr. Casselli the purport of this letter.

Very respectfully, your obedient servant,
JOSEPH S. WILSON, Commissioner.

According to a later decision, dated Sept. 1st, (which will appear next week) proof of citizenship is required in order to secure title to a mining claim, and an incorporated company is to be deemed an artificial person with the right to file claim and receive payment.

RAILWAY SUPPLIES AND MACHINERY.—M. B. Washburn's catalogue of railway supplies and machinery, of which a copy has been sent us, gives an idea of how railroad engineers must go to work in selecting and ordering piecemeal the multitudinous articles that they may require. Lists are given of different sized engine lathes, bolt-cutters, pillar and suspension drills, pumps, hydraulic jacks and punches, roller tube expanders, locomotive spring balances, steam traps, car ventilators, boiler tube cleaners, car moldings, machinists' tools, chucks, blocks, oilers, etc.; with the prices appertaining to each.

TROY POLYTECHNIC INSTITUTE.—The last catalogue of the Rensellaer Polytechnic Institute, shows that during the year ending July, 1868, there were 154 students in that institution, of whom twenty-two graduated,—seventeen as civil and five as mining engineers. The latter degree is now granted to students who pursue studies specially relating to mining and metallurgy during the last two years. James Hall, the well-known paleontologist, has charge of theoretical, practical and mining geology, and George W. Maynard of metallurgy and practical mining.

THE "MONITOR SPRING BED," invented by Mr. Sol. W. Easterday, is now being manufactured in San José, by Lankford & Easterday. The invention consists in conical shaped springs, each one surmounted by a small square board. These springs stand independent of each other, and the mattress is placed directly upon the blocks. This bed has received some very flattering testimonials from Santa Cruz County, commending its great strength, durability and adaptability. Letters patent have been applied for through the Patent Agency of the MINING AND SCIENTIFIC PRESS.

MULTUM IN PARVO.—If any one would see a world in a nutshell, let him visit Woodward's Gardens. He might travel round the globe and come in contact with fewer objects of interest than can be seen here in an hour. *

KNIT GOODS, consisting of shirts and drawers, hose and half hose, all wool or merino, are now manufactured of the very best quality at the Pacific Woolen Mills, and offered to the trade at lower rates than similar imported goods. *

FROM the army hospital; the bloody battlefield; the mansion of the rich and the humble abode of the poor—from the office and the sacred desk; from the mountain top, distant valley and far-off islands of the ocean—from every nook and corner of the civilized world, is pouring in the evidence of the astonishing effects of DRAKE'S PLANTATION BITTERS. Thousands upon thousands of letters like the following may be seen at our office:

* * * * I have been in the Army Hospital for fourteen months, speechless and nearly dead. At Alton, Ill., they gave me a bottle of Plantation Bitters. Three bottles have made me well again.
* C. H. FLAUTE.

NOTICE.—Persons interested in locating Mineral Lands in California or Nevada, will do well to observe the advertisement of N. Wescoatt, S. & M. E., in another column.

CO-OPERATIVE UNION STORE.—This is becoming one of the most useful institutions in the city, and the Mechanic and Laboring Man fully appreciate it. They are now enabled to buy their Groceries and Provisions 20 per cent. cheaper than ever before, and the very best articles in the market. The store is located at 115 Sutter street, Lick House Block, San Francisco. 6v16-ajm

SAVE YOUR TEETH.—Drs. Jessup & Beers, over Tucker's jewelry store, are now making a specialty of filling the fangs of dead Teeth, and building up broken crowns with *pure gold*—thus restoring them to their original usefulness and beauty. They are also using Nitrous Oxide for the painless extraction of Teeth, when so desired—the only absolutely safe anæsthetic ever discovered. In breathing it, it acts as a gentle stimulant, without undue excitement,—the sensation produced being truly delightful, the effect upon the lungs healthful, and in its results positively free from all danger. Prepared and administered daily at the Dental Rooms of Messrs. JESSUP & BEERS, corner Montgomery and Sutter streets, San Francisco. 16v16tf

IT
will heal
old sores, piles,
ulcers, cancers,
salt rheum, and breaking out on any part of the
body, and also removes pain
of every name or nature instantly. It is a harmless liquid, and leaves
no smart or stain, and is called Moore's
Pain Paint. For catarrh and colds in the
head, Moore's catarrh remedy affords a safe,
sure and speedy cure. Both remedies sold
by druggists everywhere, and at Moore's
office, 652 Market street, northeast
corner of Kearny, where all pain
is instantly removed, free
of cost, as hundreds can
now testify from actual tests.
8v17-3m

WHERE TO ADVERTISE.—The attention of traders and mill machinists is called to the fact that the *Mountain Messenger*, of Downieville, Sierra County, possesses many special advantages as an advertising medium over a majority of the interior press, it being the only public journal published within a radius of sixty miles, in the richest and most populous mining sections of the State. Its weekly edition is double the average of country papers, being without the range of large dailies, and having no competition at home. Its local columns afford many items for our city cotemporaries, while its rates of advertising are reasonably low. 10v17tf

PARTNER WANTED
FOR A
NEW INVENTION!

A gentleman who has recently invented a device for elevating snow, mud, etc., desires a partner for the purpose of bringing his device into practical use in this State. He is confident that it is an invention of great importance, and if rightly managed will prove remunerative to owners. For further information, address "J. A. B," Box 17, P. O., San Francisco. 14v17-1m

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Ale, Porter, Wine and Liquor Merchant,
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MANUFACTURING COMPANY,
MANUFACTURERS OF
SAFETY FUSE,

A New and Superior Article for Blasting in very wet ground, or under water.

Great difficulty has heretofore been experienced by miners, and others in the use of Fuse, which has been subjected to deterioration from exposure to dampness during transportation, or during the great length of time which has passed between its manufacture and use. In addition to great painstaking in the manufacture of the California-made Fuse, the above and many similar objections are entirely obviated, and the operator can always depend with certainty upon the burning of his fuse.

It is often the case that extra lengths are required, as exploding tunnels, etc., longer than is furnished in the imported article. Fuse of every desired length or size can be made to especial order, at the above manufactory.

Manufactory, - - - - Potrero, San Francisco.
JOS. POWNING, Sec'y. JAS. EVA, Supt.
17v16-9ptf

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Rolling Mill and Forge Co.,
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Established for the Manufacture of
RAILROAD AND OTHER IRON
—AND—
Every Variety of Shafting,
Embracing ALL SIZES of
Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames
—ALSO—
HAMMERED IRON
Of every description and size.

☞Orders addressed to PACIFIC ROLLING MILL and FORGE CO., Post Office, San Francisco, Cal., will receive prompt attention.
☞The highest price paid for Scrap Iron. 9v14-3m9p

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Will be REMOVED this day from No. 505 Clay street to
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A Book for Every Miner and Scientific Man.
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CONCENTRATION
Of all kinds of Ores, and the
CHLORINATION PROCESS,
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Will treat with parties desiring to use the
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FOR THE
REDUCTION OF REBELLIOUS ORES,
And will GUARANTEE SUCCESS in every case, as a part of the contract.
For an interview, address
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Post Office Box No. **1010,**
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Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continual working.

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House Fronts, Sash Weights,

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☞All orders promptly attended to.

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July 16, 1868. 3v17-1m

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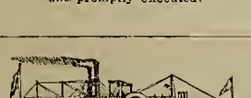
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To Foundrymen and Blacksmiths.

LUMP LEHIGH AND CUMBERLAND COAL, IN ANY quantity, sacked and shipped to any part of the country, by JAS. R. DOYLE, Coal Dealer,

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The most compact, simple in construction, and durable, of any Engine in use.

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Fine or Tubular **Boilers**, with plain circular or spiral courses. Upright Fine or Tubular Boilers, Locomotive and and Marine Boilers, and Wrought Iron Tanks of every description.

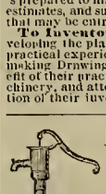
Hydraulic Pipe supplied at reasonable rates. In ordering, give the quantity of water to be supplied, hight of the fall, and total length of pipe, so as to enable the firm to determine the diameter of the pipe and thickness of iron to be used.

Repairs.—Boilers, Smoke Stacks, Pipes, etc., put in repair with promptness.

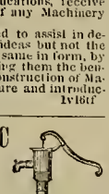
To Boiler Makers and Machinists in the Interior.—The firm is prepared to furnish estimates of Boilers, supply new Heads, drilled and punched, and attend to the selection and forwarding of Iron for Boilers, Pipes and other purposes.

Plans, Drawings and Specifications.—The firm is prepared to make out Plans and Specifications, receive estimates, and superintend the Erection of any Machinery that may be entrusted to their care.

To Inventors.—The firm is prepared to assist in developing the plans of those who have the ideas but not the practical experience necessary to put the same in form, by making Drawings of their Inventions, giving them the benefit of their practical knowledge in the construction of Machinery, and attending to the manufacture and introduction of their inventions. 1v16tf



HYDROSTATIC WORKS.



SAN FRANCISCO

Pump Manufactory

And Patent Water Closets.

M. D. LASSWELL,

No. 747 Mission Street, bet. Third and Fourth.

House-Plumbing and Gas Fitting in all of its modes. Lead, Iron and Copper Piping fitted for water, steam and gas. Ship Plumbing, and Ship Pumps made and repaired. Hose of all sizes, Couplings and Nozzles, Roses and Rose Stands, and all Kinds of Brass Cocks. Force, Lift and Suction Pumps of all sizes made and set to order.

I am now prepared to make all kinds of Pumps for miners and for irrigating in a large way. I am making four sizes of single acting Brass Pumps, similar to the Baden & Sanders Brass Pumps. I am also making a very superior Pump to any in this market for windmills, angle-actions. I am making four different kinds of double-acting Force Pumps, and different sizes of each kind. I am also making Artesian Well Pumps of a superior kind. This Pump may be lowered in any well to any depth desired. It is a force pump, or it is a suction pump, or it is a lift pump, and may be worked by hand or windmill, or any kind of power. Can be used for oil wells better than any other, and the Pump is the most durable and easiest repaired of any Pump in the country. I have now on hand thirteen Pumps in brass and iron, all of my own make.

I have invented and am making a superior double-acting Force Pump, called the GOLDEN STATE, which has great advantages over any Pump in this State. It is the easiest Pump repaired, and is the most durable of any Pump in the pump kingdom. Any one in want of a Pump or anything in my line, will do well by calling at my place before purchasing elsewhere.

☞This Pump received the **Silver Medal** and highest premium at the Mechanics' Fair; also the highest premium at the late State Fair.

☞I also keep all kinds of DOUGLASS and other makers' Pumps on hand. 11v17-tf

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EUREKA FOUNDRY,

129 and 131 Beale street, between Mission and Howard, San Francisco.

LIGHT AND HEAVY CASTINGS,

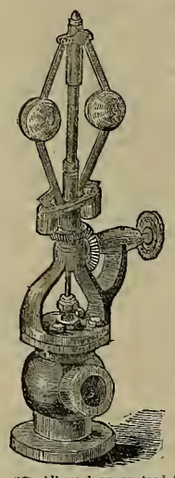
of every description, manufactured. 24v16qr

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MACHINE WORKS,

NOS. 109 and 111 MISSION STREET,

Between Main and Spear.



New and second-hand

Engines and Boilers,

FOR SALE.

Also one first-class Hoisting Engine; one Upright Engine, or entirely new pattern.

MANUFACTURER OF

Lathes, Drills,

And MILL MACHINERY of every description.

PRACY'S

New and Improved

STEAM ENGINE

REGULATORS,

The best and cheapest yet invented—manufactured and for sale. Parties are invited to examine it in practical operation.

F. A. HUNTINGTON'S

Shingle Machines

on hand.

Particular attention paid to Repairing.

☞All work guaranteed to be done in a first-class manner, and at the lowest rates. 12v17tf

IRA P. RANKIN. A. P. BRAYTON. A. C. AUSTIN.

Pacific Iron Works.

First and Fremont Streets,

SAN FRANCISCO.

Having been established since 1851, we have accumulated a very large variety of Gear and other Patterns, which, with our superior tools and appliances, give us facilities for doing first class work unequaled on the Pacific Coast.

Among other things, we manufacture the following:

STEAM ENGINES,

Horizontal and Vertical, for either Stationary or Marine use.

BOILERS—High and Low Pressure,

Pump, Pipe and Sheet Iron Work of every kind.

Quartz Mill Work,

Including High and Low Mortars, for wet or dry crushing; Furnace Irons for Roasting Ores; Freiberg Barrels; Varney's and Wheeler's Amalgamating Pans and Settlers; Stamp Shoes and Dies of best White Iron; Russia Iron Screens, etc., etc.

Flour Mill, Saw Mill and Sugar Mill Work in every variety; Pumping and Hoisting Machinery; Hausbrow's Patent Challenge Pump, for Domestic, Ship and Mining use—the most approved and successful Pump manufactured.

Castings of every description, Iron and Brass.

We would call especial attention to "Wright's Patent Variable Cut-off Engines," of which we are the sole manufacturers on the Pacific Coast, under license from the Woodruff & Beach Co., Hartford, Ct. As a simple, effective, fuel saving, first-class Engine, this is, without doubt, the best Engine made in the United States.

Orders promptly attended to. Prices as low as possible for first class work, and we intend to do no other.

GODDARD & CO.

San Francisco, May 1, 1868. 18v16tf

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JONATHAN KITTREDGE, Proprietor,

Nos. 18 and 20 Fremont street, near Market,

MANUFACTURER OF

Fire-Proof Doors, Shutters,

Wrought Iron Girders, and all kinds of Housesmith work, Bridge and Prison Work;

BANK VAULTS AND MONITOR SAFES,

FORGING AND MACHINE WORK.

Agency for the ISHAM KEY REGISTER BANK AND SAFE LOCK, the only first class Lock in the

1v17tf United States

J. NEWSHAM. J. HIGWOOD.

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Near corner of King and Third streets, San Francisco.

MARINE ENGINES,

AND ALL KINDS OF

MACHINERY FORGING.

All kinds of Ship-smithing and Mill work manufactured to order. Jobbing of every description promptly attended to. All work done guaranteed. 13v14-1y

CALIFORNIA BRASS FOUNDRY.

No. 125 First street, opposite Minna,

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ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞PRICES MODERATE.☜

J. P. CALLAGHER. J. H. WEED. V. KINOWELL.

9v13-1y

CHARACTER OF THE UNION PACIFIC RAILROAD.—A correspondent of the Springfield *Republican*, writing from Denver (Col.) says:

The manner in which the road is being built, has been a subject of some dispute and considerable anxiety. From all I could see and hear, the character of the work is quite up to the average of other new roads in America—better, I should think, than most of the Western roads on their original completion. Of course, with such temptation to speed as exists, thoroughness is sacrificed to that at first; wide detours are made to avoid slow cuts; trestlework takes the place of pier bridges or high embankments, and the track is not filled up full and firm; but after getting ahead, contractors or company go back and perfect the line, cutting off unnecessary curves, putting in stone culverts and piers, and every way responding to the exactions of the Government commissioners who inspect the work, and by whose approval only can the road obtain the Government grants. Everything, in fact, depends upon these gentlemen; if the Government and the people are being cheated in the character of this work, they are responsible—it is because they are bribed or deceived into approval of imperfect construction. The standing and intelligence of at least two of the three commissioners—General Buford, of Rock Island, and General Frank P. Blair, the Democratic candidate for Vice-President—are as good guarantee as could be had, perhaps, that neither thing is done. They are evidently construing the bargain liberally to the company, but because they recognize the importance of the early completion of the road, and also because they have confidence in the purposo of the managers to repair all neglects and put the line into thorough condition.

SAVING OF SOLUBLE COPPER.—Scraps of iron may be used to secure the copper that runs away in the streams washing veins of copper pyrites. In the Mono company's mines, in North Wales, old pieces of battered iron are placed in tanks in which these streams are collected; the copper quickly incrusts the iron, and in process of time entirely dissolves it, so that a mass of copper takes the place of the iron. The residuum, in the shape of a colored deposit, is at times taken out, dried, and smelted. Before the adoption of this plan a great deal of copper escaped as a refuse into the sea. This simple laboratory device has, during the last few years, risen to a manufacturing scale.

AMERICAN BREECH-LOADERS IN EUROPE. E. Remington & Sons, of Illion, N. Y., have made and sent off to Denmark 30,000 of their breech-loading rifles, and 2,000 carbines, which are now in the hands of the Danish soldiers, and Gen. Raasloff, the Danish Secretary of War, writes that his Government has every reason to congratulate itself on the selection it has made. Remington & Co. have also just shipped to Sweden the last of 30,000 rifles ordered by the Swedish Government.

The Risdon Iron & Locomotive Works.

Incorporated, April 30, 1868. Capital, $1,000,000.

Location of Works, Corner Beale and Howard streets, SAN FRANCISCO.

Successors to Pacific Mail S. S. Co. Works at Benicia, Coffey & Risdon, and Devoe, Dinsmore & Co., San Francisco.

Steam Engine Builders, Boiler Makers,

MACHINISTS AND FOUNDRYMEN.

All work in their line attended to with promptness and dispatch. DIRECTORS—S. F. Butterworth, Lloyd Tevis, Jas. Pollock, Ben. Holladay, Chas. E. McLane, John N. Risdon, Joseph Moore, John N. Risdon, President; Joseph Moore, Vice President and Superintendent; Chas. E. McLane, Treasurer; Lewis R. Mead, Secretary; Lewis Coffey, Superintendent Boiler Works. 8v17 qy

LINCOLN IRON WORKS,

No. 51 Beale st., bet. Market and Mission.

D. FOURNESS, Proprietor.

STEAM ENGINES,

Flour and Sawmills, and MACHINERY of all descriptions made and repaired at shortest notice.

☞Particular attention paid to repairing Reynold's Cut-off 5v15qr

WM. HAWKINS. T. G. CANTRELL.

HAWKINS & CANTRELL,

MACHINE WORKS,

Nos. 210 and 212 Beale street, between Howard and Folsom streets, San Francisco.

Manufacturers of STEAM ENGINES and all kinds of Mill and Mining Machinery. N. B.—Jobbing and Repairing done with dispatch. 10v17 3m

To Inventors.

The undersigned is now prepared to assist inventors or others by manufacturing Models for the Patent Office, large working Machines or Devices of every description, in Metal or Wood, in the most workmanlike manner and at reasonable rates. Also, Patterns for Iron and Brass Work and all kinds of Machinery.

Having had ten years practical experience in this city, parties can be assured all work entrusted to me will be executed in a prompt and satisfactory manner. Power will be granted to parties wishing to test or experiment with machinery.

☞Full files of the Patent Office Reports for the use of patrons. J. H. CULVER,

3v17-3m 20 Fremont street, over Phœnix Iron Works.

Scientific Schools in the United States.

The following is a list of the leading institutions of practical science in this country:

The Polytechnic College of Pennsylvania, situated in Philadelphia; courses, civil engineering, mechanical engineering, practical chemistry, agriculture, mines, architecture—all of which are two years, except the first mentioned, which is one year. The total attendance in 1865 was 136.

The Rensselaer Polytechnic Institute, situated in Troy, N. Y. It has courses of civil engineering, mechanical engineering, topographical engineering, and natural science; length of each, four years. The total attendance in 1865 was 150.

The scientific course of Union College, Schenectady, N. Y., was founded in 1845. The courses are applied chemistry and engineering—two years each. The attendance in 1865 was forty.

The Sheffield Scientific School is one of the professional schools around Yale College, New Haven. The courses are chemistry and natural science, engineering, agriculture, and mechanic arts; the length of all the courses, except the fourth mentioned (which is two) being three years. The attendance in 1865 was fifty-seven.

The Lawrence Scientific School, Cambridge, Mass., is one of the professional schools around Harvard College, and was founded in 1848. The courses are chemical, general and technical; zoölogy and geology, engineering, botany, comparative anatomy and physiology, mineralogy—all one year each. The attendance in 1864 was seventy-five.

The Chandler Scientific School is one of the professional schools around Dartmouth College, Hanover, N. H.; the attendance in 1865 was forty-eight.

The scientific courses in the University of Michigan, at Ann Arbor, are civil engineering (one year) natural history, general technical chemistry, mines, at the discretion of the student. The attendance in 1865 was eighty-two.

"Professional (Scientific) Department" is one of the professional schools of the University of New York City, has a professional department in which there are courses on civil engineering and architecture, analytical and practical chemistry—the former three and the latter two years, total attendance in 1865, thirty-one.

The Scientific Section of Washington University, St. Louis, Mo., has a general science and technical course of three years. The attendance in 1864 was seven.

The Cooper Union for the Advancement of Science and Art, in New York City, has a Free Night School of Science and a Free Night School of Art, a School of Design for Women, and a Scientific (Polytechnic Day) School. The attendance at the night schools in 1864 was 1,281; in the School of Design, 173.

The Collegiate and Engineering Institution of New York City, has a course of two years.

The School of Mines of Columbia College, New York City, has a course of six years. The attendance in 1865 was thirty-three.

The Massachusetts Institute of Technology, has courses on mechanical engineering, civil and topographical engineering, building and architecture; higher general sciences, etc., two years each. The attendance in 1865 was seventy-two.

Besides the above mentioned, there are the Worcester, Mass., Free Industrial Institute; the Cornell University, Ithaca, N. Y.; the University of South Suwanee, Tenn.; and the School of Mines in connection with Harvard College, Cambridge, Mass.

In Brown University, Providence, R. I., there is a department of chemistry and engineering; in the Scientific School of the New York Free Academy, there was an attendance in 1864 of 482. The Brooklyn Collegiate and Polytechnic Institute was founded in 1855.

THE *Revue des Deux Mondes* says that the wine drank by the lower classes is not wine, but a mixture, the basis of which is sugar.

A CONCESSION for laying a telegraph cable from the Spanish Antilles to the coast of Mexico has been granted to Señor José Cáceres.

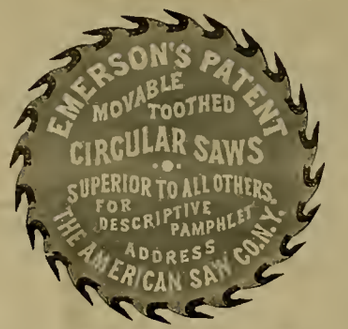
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Ores carefully Assayed. Gold and Silver Ores worked.
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—OF—
Illuminating, Lubricating,
—AND—
PAINT OILS,
CONSISTING OF
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Spirits of Turpentine and Alcohol.
Lamps and Lamp Stock!
An elegant and complete assortment.
SOLE IMPORTERS OF
Devoe's Illuminating Oil.
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Industrial Publisher,
No. 406 Walnut Street, Philadelphia.
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A Practical Guide for the Perfumer; Being a New Treatise on Perfumery the most favorable to the Beauty without being injurious to the Health, comprising a description of the substances used in Perfumery, the Formulæ of more than one thousand Preparations, such as Cosmetics, Perfumed Oils, Tooth Powders, Waters, Extracts, Tinctures, Infusions, Spirits, Vinaigres, Essential Oils, Pastels, Creams, Soaps, and many new Hygienic Products not hitherto described. Edited from Notes and Documents of Messrs. Debay, Lunel, etc., with additions by Professor H. Dussauce, Chemist. 12mo..... $3 00
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☞The above, or any of my publications, sent free of postage, at the publication prices. My new and enlarged CATALOGUE OF PRACTICAL AND SCIENTIFIC BOOKS, 56 pages, 8vo, is just ready, and will be sent free of postage to any one who will favor me with his address. 20v16tf

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Founded in 1852, it is the oldest Weekly Paper in the State, permanently established, and more widely circulated at home and abroad than any other on the Pacific Coast. In California, the Atlantic States, and throughout the entire field of its great and rapidly increasing circulation, THE GOLDEN ERA is universally regarded as a Literary and Family Journal of unequalled excellence. Among its contributors are all the best writers on this side of the Continent.
THE GOLDEN ERA
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Having had a long experience in the purchasing of goods and machinery for miners, parties in the mines will find it to their advantage, where purchasing agents are employed, to send their orders to the undersigned.
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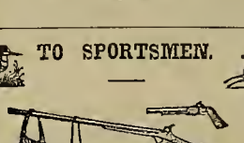
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☞Descriptive Pamphlets will be forwarded to any one
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THE LARGEST
AND BEST SELECTED STOCK
IN THE STATE.
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SAN FRANCISCO.
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A SUBSTITUTE FOR
CURLED HAIR,
—FOR—
ALL UPHOLSTERY PURPOSES.
Cheaper than Feathers or Hair,
AND FAR SUPERIOR.
THE LIGHTEST, SOFTEST, MOST ELASTIC, DURABLE and best material known, for Mattresses, Pillows Cushions, etc. It is entirely indestructible, and its purity is almost immaculate. No moth, no insect, no dirt. It does not pack at all! Is always free from insect life; is perfectly healthy; and for the sick is unequalled by any bed in the world. Special attention given to furnishing Churches, Halls, etc. Satisfaction guaranteed.
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AT PRICES TO SUIT ALL.
FURNITURE AND MATTRESSES
Made to order.
All kinds of upholstering executed with neatness and dispatch. 9v17


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ANECDOTE OF FARADAY.—Twelve or thirteen years ago, says Prof. Tyndall, in the July number of the *American Journal of Science and Arts*, Mr. Faraday and myself quitted the Royal Institution one evening together, to pay a visit in Baker Street. He took my arm at the door, and pressing it to his side in his warm genial way, said, "Come, Tyndall, I will now show you something that will interest you." We walked northward, passed the house of Mr. Babbage, which drew forth a reference to the famous evening parties once assembled there. We reached Blandford street, and after a little looking about, he paused before a stationer's shop, and then went in. On entering the shop, his usual animation seemed doubled; he looked rapidly at everything it contained. To the left on entering was a door, through which he looked down into a little room, with a window in front facing Blandford street. Drawing me toward him, he said eagarly, "Look there, Tyndall; that was my working-place. I bound books in that little nook." A respectable-looking woman stood behind the counter; his conversation with me was too low to be heard by her, and he now turned to the counter to buy some cards as an excuse for our being there. He asked the woman her name—her predecessor's name—his predecessor's name. "That won't do," he said, with good-humored impatience, who was *his* predecessor?" "Mr. Riebau," she replied, and immediately added, as if suddenly recollecting herself, "He, sir, was the master of Sir Charles Faraday." "Nonsense!" he responded, "there is no such person." Great was her delight when I told her the name of her visitor; but she assured me that as soon as she saw him running about the shop, she felt—though she did not know why—that it must be "Sir Charles Faraday."

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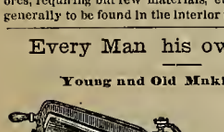
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NAME OF COMPANY.	March 10th.	March 20th.	March 30th.	April 10th.	April 20th.	April 30th.	May 11th.	May 20th.	May 30th.	June 10th.	June 20th.	June 30th	July 10th.	July 20th.	July 30th	Aug. 10th.	Aug. 20th.	Aug. 31st.
Gould & Curry.....per ft.	620	670	690	660	560	535	540	420	430	110	112	114	100	103	105	91	88	106
Ophir. ...	195	197½	225	245	180	175	167½	167	180	143	123	145	154	224	21	20¾	32	21
Savage.....	172	170	173½	177	155	153	156½	151	150¾	163	154½	157¾	136	152½	132½	129	113	118¾
Chollar-Potosi.....	182½	209	205	337½	220	225	247½	220	216	280	245	255	214	151	134	138	162	183½
Hale & Norcross.....	2,000	2 7 0	2,350	2 425	2,100	2,300	127½	110	105	117	80	102	71	65	73	74½	77	93
Shoba.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Daney.....	27	35	28	20	19	7½	18	14	23	7	7½	8	7½	....	3½	....	....	....
Wide West.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Bullion.....	52¾	70	131	112½	60	52	70	64	47	37½	23	30	26	23	21	17½	22	20
Real del Monte.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
El Dorado.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Overman.....	174	178	185	212	150	122	137½	74	83	77	77½	82	69	82	78	78	110	88
Sierra Nevada.....	24	25	31	30	17	11	18	26	25	31	25	30	27	29	32	38½	37	27
Yellow Jacket.....	1,320	1,555	1,480	1,320	1,280	1,340	1,492	1,051	1,200	1,205	1,115	1,235	1,240	1,220	1,185	1,135	1,220	1,400
Amador.....	....	....	....	300	287½	297½	232½	210	....	201	255	245	225	235	265	260	257½	242½
Lady Bryan.....	....	....	....	58	35	25	38	29	23	31	25	32½	27	23	14	15	15	21
North American.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Baltimore American.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Melones.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Sacramento.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
White & Murphy.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Imperial.....	265	252½	243	285	243	229	250	232½	208	210	199	140	139	118	103	111	118	114
Crown Point.....	1,855	2,450	2,340	2,180	2,175	2,225	2,280	108	117	113½	101	93	88½	94	88	87½	87	84
Belcher.....	295	425	400	380	325	305	340	342½	301	285	200	190	172½	162½	115	122½	140	160
Alpha.....	1,320	775	99	100	88	81	88	66	75	72	57½	52	47	44½	41	51	50	51½
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Confidence.....	70	90	89	100	....	95	....	62½	....	50	....	....	38	38	35	....	....	35
Justice and Independent	....	....	....	38	21	15	15	....	....	....	....	....	8	6	5	....	....	....
Exchequer.....	41	43	80	79	46	43	57½	35	41	39	31	29	25	24	20	19	19	19
Kentuck.....	295	435	435	477½	445	450	477½	400	417	385	390	372½	392½	387½	382½	351	450	425
Gold Hill Q. M. Co.....	125	95	99	122½	125	120	125	11	....	117½	82½	100	85	70	69	65	....	60
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Mining and Scientific Press Office, San Francisco

Advantages to Patrons of Our Agency.

Some of the advantages to be obtained by patronizing us may be enumerated as follows:

1. Inventors on this coast having their applications for patents made out through our agency, can sign their papers at once, and thus secure their rights at least *three months sooner* than by trusting the same to distant agencies, situated at New York or Washington.

2. As many of the inventions conceived here are especially adapted to the Pacific coast, they should be properly brought out here, which can be accomplished (if the invention is a meritorious one) by illustrating the subject, with a careful description, in the columns of the MINING AND SCIENTIFIC PRESS, *free of charge*; the inventor paying simply for the engraving, which will be executed at a moderate charge. The same cuts can be subsequently used for books, letters or circulars. In a word, we are determined to make it of decided interest for every inventor on this coast to patronize home talent and enterprise.

3. Most inventions on this coast are for objects and purposes but little understood by parties at Washington or other parts of the East. Our mining machinery, processes and operations are best understood by those familiar with their use; and a personal verbal explanation is oftentimes of important service, and enables us to be more successful than agents generally.

4. Remittances of money made by individual inventors to the Government sometimes miscarry, and it has frequently happened that applicants have not only lost their money, but their inventions also, from this cause and consequent delay. We hold ourselves responsible for all fees entrusted to our agency. By sending duplicate correspondence to our Washington agent we avoid hazardous delays.

Saving of Time.

In urgent cases for an immediate patent, persons can deposit the amount of the last fees with us, in San Francisco, and have our Washington agent procure the *issue* of the papers as soon as granted, saving the two or three months time which would otherwise be required for the inventor to receive notice and then forward the money. Money advances for this purpose will be returned, should the application be rejected. By adopting this course, we are enabled, with our other advantages, to secure the *receipt* of patent papers to inventors on this Coast, at least four or five months sooner than can be done through agents in the East, without the applicant going to the hazardous expense of sending on the last fee before it is known whether the patent will be granted.

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In addition to American patents we secure, with the assistance of co-operative agents, claims in all foreign countries which grant patents, including Great Britain, France, Belgium, the Netherlands, Prussia, Austria, Russia, Spain, British India, Saxony, Hanover, Sardinia, Norway, Sweden, Australia, Mexico, Victoria, V. I.

Many valuable and important inventions of Americans are being yearly surreptitously patented in foreign countries, some of which governments allow it, thus debarring those who have valuable inventions from their rights.

Patents obtained in England, France and Belgium will secure the rights of an inventor among many millions of the most enlightened people on the globe; it is therefore very important, if the invention is valuable, to secure foreign patents.

Our schedule prices for obtaining foreign patents, in all cases, will be as low, or lower, than those of any other agency.

Mining Notices.

Bunker Hill Quartz Mining Company. Location of Works: Near Amador, Amador County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of May, 1868, an assessment (No. 8) of ten dollars ($10) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, or to DANIEL PALMER, No. 134 State street, Boston, Massachusetts.

And whereas said assessment was not duly advertised as required by law, and as contemplated by the resolution making the levy, at a subsequent meeting of the Board of Trustees, held September 2d, 1868, it was resolved, that—

Any stock upon which said assessment shall remain unpaid on the sixth day of October, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-sixth day of October, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

WALES L. PALMER, Secretary.
Office, No. 19 First street, San Francisco, California. sep5

Chalk Mountain Blue Gravel Company.—Location of Works: Nevada County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the seventeenth day of August, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No Certificate.	No. shares.	Amount.
E C McComb	51	25	$25 00
P C Lander	48	75	75 00
P C Lander	51	150	150 00
John R Mead	49	50	50 00
Wesley Henderson	67	100	100 00
Albinus Ingle	74	10	10 00

And in accordance with law, and an order of the Board of Trustees, made on the 17th day of August, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, on the twelfth day of October, 1868, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. BUFFINGTON, Secretary.
Office, Room 37 New Merchants' Exchange, California street, San Francisco. sep26

Chiplonena Mining Company—District of Ures, Sonora, Mexico.

Notice is hereby given, that at a meeting of the Board Trustees of said Company, held on the seventh day of September, 1868, an assessment of five dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 318 California street, up stairs.

Any stock upon which said assessment shall remain unpaid on the ninth day of October, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-sixth day of October, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary.
Office, 318 California street, up-stairs, San Francisco. sep12

Diamond Copper Mining Company. Location: Rockland District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of February, 1867, an assessment of two ($2) dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, Room 40 Merchants' Exchange Building, California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the seventh day of October, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-sixth day of October, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. A. COOLIDGE, Secretary.
Office, Room 40 Merchants' Exchange Building, California street, San Francisco, Cal. sep12

I. X. L. Gold and Silver Mining Company.—Location of Mine: Silver Mountain District, Alpine County, Cal.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the twentieth day of August, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Richard Inch	34	40	$60 00
Richard Inch	35	30	45 00
Richard Inch	36	20	30 00
Richard Inch	38	6	9 00
Gomer Evans	335	94	125 00
Mary C Bridges	360	12¾	18 75
Thomas Prisk	351	5	7 50
Ann Hogan	176	7	10 50
Edmund Palacho	143	5	7 50
Isaac Ayer	146	4	6 00
Isaac Ayer	338	1	1 50
Wm Rowland	305	5	7 50
Wm Rowland	306	5	7 50
E E Wahlburg	174	10	15 00
L A Wahlburg	277	5	7 50
James Earls	355	9½	14 25
Henry Jardine	188	5	7 50
Henry Jardine	340	3	4 50
Henry Jardine	330	1 1/2	18 75
Henry Jardine	331	5	7 50
H G Blaisdell	27	9½	14 25
H G Blaisdell	292	15 16	1 40
E B Curtis	265	5	7 50

And in accordance with law, and an order of the Board of Trustees, made on the twentieth day of August, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at their salesrooms, No. 426 Montgomery street, San Francisco, on Wednesday, the seventh day of October, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. CROWNINSHIELD, Secretary.
Office, Pioneer Hall, Montgomery street, up stairs, San Francisco. sep26

THE MINING AND SCIENTIFIC PRESS has entered upon its XVIIth Volume. It has donned a new-style hat; or, in newspaper parlance, a new heading, which gives it the solid, scientific look it merits. Other improvements typographical are also noticeable. No call for improvement in its matter.—*Amador Ledger, July 18th.*

Delays are Dangerous.—Inventors on the Pacific Coast should bear in mind that by patronizing our Patent Agency they can sign all necessary papers for securing patents almost immediately, thereby avoiding the three month's delay requisite in transacting business through Eastern agencies.

Kearsarge Mining Company, Kearsarge District, Inyo County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of September, 1868, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 408 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-second day of October, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the tenth day of November, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINGARD, Secretary.
Office, 408 California street, San Francisco. sep19

Nevada County Gold Mining Company, Nevada County, California.

Notice is hereby given to the Stockholders of the Nevada County Gold Mining Company, that a meeting will be held at the office of the Company, No. 9 Merchants' Exchange, California street, San Francisco, on MONDAY, the fifth day of October, 1868, at the hour of 12 o'clock, noon, for the purpose of electing officers, and the transaction of such other business as shall come before the meeting.

(Signed) E. S CURTIS, } Trustees and
B. WELLMAN, } Stockholders.
WM. NEWTON MEEKS, } Stockholders.
CHAS. HALSEY, }
San Francisco, Sept. 9th, 1868. sep13

North American Wood Preserving Company. Location of Works: San Francisco, California.

Notice is hereby given, that at a meeting of the Board of Directors of said Company, held on the third day of September, 1868, an assessment of fifty (50) cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, Room 32 New Merchants' Exchange, California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the fifth day of October, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twenty-seventh day of October, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Directors.

WM. B. LAKE, Secretary.
Office, 32 New Merchants' Exchange. sep5

Oxford Beta Tunnel and Mining Company, Esmeralda District and County, State of Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the eleventh day of August, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificates.	No. Shares.	Amount.
Geo C Perkins	97, 98, 99, 100, 101-to ea	75	$37 50
Ira P Rankin	not issued	100	50 00
M C Kyes	142	7	3 50
M C Kyes	187	3	1 50
A Farnsworth	203, 204-10 ea	20	10 00
A Farnsworth	262	20	10 00
A M S Dennell	213	50	25 00
E Frank Clark	216, 217-10 ea	20	10 00
E Frank Clark	218	5	2 50
S M Hoges	153, 154, 155, 156-10 ea	40	20 00
S M Hoges	206	20	10 00
R P Stickney	228	10	5 00
R P Stickney	247, 248, 249-5 ea	15	7 50
T N Brown	245	5	2 50
J C Medley	256	10	5 00
B S Mason	259	35	17 50
Larkin Smith	261	50	25 00

And in accordance with law, and an order of the Board of Trustees, made on the eleventh day of August, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, Cal., on the twelfth day of October, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

GEO. H. PECK, Secretary.
Office, 212 Clay street, San Francisco. sep26

Providence Gold and Silver Mining Company, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of September, 1868, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the seventeenth day of October, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the fifth day of November, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary.
Office, Room 37 New Merchants' Exchange, California street, San Francisco. sep19

Silver Sprout Mining Company.—Location of Works and Mines: Kearsarge District, Inyo county, Cal.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the fourth day of August, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Alberding, F H	16, 17, 26	3	$90 00
Cozens & Cleveland	32	1	30 00
Devin, Bendere & McMillin	not issued	2	60 00
Gillig, John	34, 37	32	960 00
Gray, T C	63	7	210 00
Hearst, George	27	10	300 00
Holt, E B, Jr	82, 84	10	300 00
McMillin Thos	75	1	30 00
McLaughlin, J W	74	50	1,500 00
Martinez, Ladislao	30	4	120 00
Wingard, A	22, 50, 53	16	480 00

And in accordance with law, and an order of the Board of Trustees, made on the fourth day of August, 1868 so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on the twenty-first day of September, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.
Office, 408 California street, San Francisco. sep5

POSTPONEMENT.—The above sale is hereby postponed until Wednesday, the twenty-first day of October, 1868, at the same hour and place. By order of the Board of Trustees.
sep19 T. B. WINGARD, Secretary.

PATENT OFFICE REPORTS, from 1843 to 1847, MECHANICAL are wanted for duplicate copies at this office. Parties having them for sale will please state price, and address DEWEY & CO., Mining and Scientific Press office, San Francisco.

Postponements and Alterations.—Secretaries are requested to give notice of postponements, or alterations which they may desire made in their advertisements at their earliest convenience. New advertisements should be handed in as early as possible.

Machinery.

VARNEY'S
PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has everrequired repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

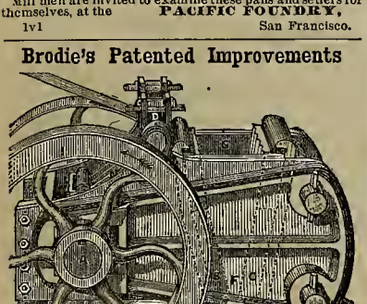
The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setters made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setlers for themselves, at the **PACIFIC FOUNDRY,**

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Brodie's Patented Improvements



FOR THE TREATMENT OF

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BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:

No. 1—Or 10 inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price.....$600

No. 2—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour..... 850

No. 3—Or 18 inch Crusher, will in a similar manner crush from seven to eight tons per hour..... 1,200

These Crushers have been erected at several mines in the State of Nevada, and others in Calaveras, Tuolumne and Mariposa counties, to whom applicants can be referred as being the most efficient, cheapest, and least weight compatible with strength and durability, of any Crusher yet erected.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.

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BLAKE'S QUARTZ BREAKER!

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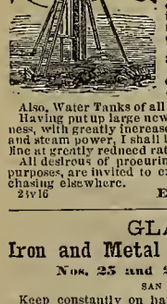
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Hunt's Patent Wind-Mills, Tread Horse-Powers, Sweep Horse-Powers, (for one or four horses), Sawing Machines, Pumps of all kinds for shallow or deep wells,—including Hunt's Submerged Pump, Hunt's Globe Pump, and Hunt's Single and Double-Acting Pump.

Pumping Machines and general Machinery kept constantly on hand and built to order.

Also, Water Tanks of all sizes.

Having put up large new buildings specially for my business, with greatly increased facilities in the way of room and steam power, I shall be able to build everything in my line at greatly reduced rates.

All desirous of procuring water for irrigating or other purposes, are invited to examine my articles before purchasing elsewhere.

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Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings which they offer to the trade on liberal terms.

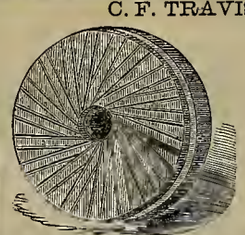
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Mill Picks, Mill Picks Dressed, Mill-Stones Repaired and Rebuilt; Mill Stones Balanced with Fellenbaum's Patent Balance, of which I am sole Proprietor for California, Oregon, and Washington Territory. C. F. TRAVIS,

5v16tf 109 Mission street, San Francisco.

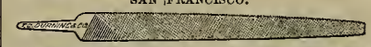
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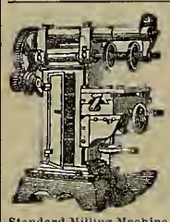
No. 53 Beale Street, bet. Market and Mission,

SAN FRANCISCO.

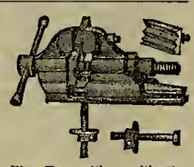


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DEVOE'S COAL OIL, PARAFINE OIL, MACHINE OIL, Lard Oil, China Oil, Neats Foot Oil, Sperm Oil, Boiled Linseed Oil, Alcohol, Polar Oil, Tanner's Oil, Elephant Oil, Binnacle Oil, Turpentine, Oil Soap, Crude Petroleum, Lamp Stock of all kinds, GASOLINE, Gravity 84, NAPTHA, Gravity 65 and 71. Also, GRANT'S CANDLES, in lots to suit.

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New Potato Digger.

Parties interested in saving considerable time and money by using the

PACIFIC

POTATO DIGGER AND SACKER,

Should not delay the present opportunity of having one in time for the late Potato crop this season.

☞ Liberal terms to Farmers' clubs ordering more than one. This arrangement secures to members in rotation the great benefit of a machine, and materially reduces their outlay. A Potato Digger of this kind is sufficiently strong for general ranch purposes, and will dig, clean and separate, according to sizes, and sack six to seven acres of potatoes daily, besides the important saving of so much time, and at less than half the cost of the present expensive and dilatory method by hand.

It would require one man from forty to fifty days to accomplish the same amount of work.

A WORKING MODEL may be seen from 11 to 12 and from 1 till 6 o'clock daily, in operation until the 10th of October, at Risdon's Machine Works, corner of Bea e and Howard streets, San Francisco.

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Lecture on Chemical Geology.

[Delivered before the Fellows of the Chemical Society, London, February 20, 1868.]

BY DAVID FORBES, F.R.S., ETC.

[Continued from page 187.]

Igneous action in geology is equivalent to volcanic action, being the action of heat as is seen in the active volcanoes of the present day, the study of which led to the foundation of the plutonic or igneous school of geologists.

This action is not, as occasionally has been misrepresented, a mere dry fusion, such as would take place when the chemist fuses anhydrous substances in his crucible, and of which, as observation shows, no example can now be seen in nature's operations, but is one in which, whilst heat undoubtedly plays the grand part, is in nature invariably accompanied by the action of vapor and gases; and any one who ever has seen a volcano in eruption can bear testimony to the enormous volumes of vapor and gases which are emitted, and which, could meaus be discovered of measuring or weighing them, would be found to bear a very considerable ratio, to the total amount of solid matter actually sent forth by the eruption.

Aqueous Action.—The action of water (fresh or saline) such as we are accustomed to observe on the present surface of the earth; this is not, however, the mere solvent action of the pure water employed by the chemist in his researches in the laboratory; but is one in which the air, gases, salts, and other bodies contained in natural waters, along with the action of heat (by raising or lowering the temperature) materially alter the solvent powers of the water itself.

Gasolytic Action.—The action of gases and vapors more or less assisted by heat.

All these agencies are subject to be modified by the effects of chemical action and mechanical force, but whilst in all these cases, we have the action of heat, of water, and of gases, each playing a more or less prominent part; there can still be no grounds for misunderstanding or confusing the meaning of the three terms.

In igneous or volcanic action, we find that, whilst the effect of heat predominates, still the presence of heated vapors and gases exercises a most important influence in modifying the results; in this case, the water present is in the form of steam, although it is possible that a minute amount of water may be imagined to exist as water entangled in the melted rock under enormous pressure.

In aqueous action on the other hand, the water which acts as a liquid, not as a vapor, is the main agency; yet the effects of the air, gases, and solid constituents, as well as of its temperature, must be taken into full consideration, since they often may very materially affect the result.

In now attempting to apply the principles of chemistry, to the explanation of the changes which our globe has undergone, it appears most systematic and convenient, to commence at a point as far back in its history as the evidence furnished by the sciences of astronomy and physics can carry us, and from this point to work out step by step the subsequent phases which it has passed through. As however the first stages in such a chemico-geological chronicle must necessarily be but hypothetical, it is important, in the first instance, to assume as little as possible for granted; and therefore the sole axiom, on which this sketch is based, is the conclusion which astronomers and natural philosophers appear to have very generally arrived at, viz., that our globe was at one period in so highly heated a condition, that its entire solid contents were in a state of complete liquidity.

I am fully aware, that some observers have gone still further back, and imagined the whole of the constituents of the globe as having been previously in the gasiform condition as a nebula in space; and that they find evidence in the recent discoveries made by the spectroscope in support of this view; also that others have conjectured that the chemical elements in such a nebula would be in a "disassociated" state of chemical indifference to one another, until a lowering of temperature brought about combination and condensation.

Without disputing either the possibility or probability of these views, I consider that in the present state of our knowledge of the subject, it would be imprudent to adopt them; for too little is known either of the effect of such intense degrees of heat, or of the state of "disassociation" or indifference of heated gases, to warrant confidence being placed in conclusions based upon such imperfect data.

Chemists will no doubt admit that it is but fair to assume, that the chemical ele-

uents which then made up the world were he same, and possessed the same properies as those now recognized, as of course it nts an end to all reasoning upon this subect, if this be not granted; for the very supposition that the interior of the earth (with he exact nature of which we are and ever nust remain ignorant) was composed of lements unknown to the chemist, would at nce annihilate all calculations or deducions.

Having now an intensely heated world given us for consideration, it is in the first lace inferred, that this would be composed f bodies of two different characters—solid nd gasiform; which, by their situation nd rotation, would bring about the formaion of a molten sphere of the more refracory bodies, surrounded by an intensely eated gasiform atmosphere of the more volatile.

In considering the distribution of the hemical elements in this sphere and atmosphere, we must be guided by the knowledge we possess of the effect of intense heat upon the elementary bodies and their compounds; and it naturally follows that the more volatile bodies would remain longer in the atmosphere than the more refractory ones, which would be condensed previously into the sphere. It must also be remembered, that at so intense a temperature we should not only find in the atmosphere those bodies which are gaseous at ordinary temperatures, but in addition, many others, such as the vapors of various metals, etc., etc., which do not assume that form, except when exposed to extremely high heats.

The affinity of bodies for one another would no doubt also be considerably different at this temperature, and their mutual chemical reactions might also be expected to vary considerably from those which are known to take place at ordinary temperatures; and it is to be regretted that the effects of heat in modifying the affinity of bodies for one another, are as yet but very imperfectly understood, although it is proved that they possess a very strong influence in so doing: we know for example, that sodium will, at comparatively low temperatures, decompose carbonic acid, yet at much higher temperatures, carbon decomposes soda. Again, iron at a red heat decomposes water, whilst hydrogen at a similar heat decomposes the oxide of iron.

Under these circumstances, it is evident that great latitude is given to chemists when explaining the reactions which may be conjectured to have characterized this epoch in the earth's history, as at present it would be impossible to produce sufficient experimental evidence, to prove or disprove various different and apparently contradictory opinions which might be advanced to account for such phenomena.

I shall therefore here give a summary of the main conclusions, which the examination of this subject has caused me to arrive at, and then go into an examination of the arguments for and against their adoption.

Supposing the grand battle of chemical combination at an end, and the compounds so formed, resting as it were during an armistice of neutralization, whilst at the same time the whole world still continued in a state of intense incandescence, I have ventured to imagine the state of things at this moment, as follows:—

Both in the molten sphere, and in the atmosphere surrounding it, the first impulse of these newly formed compounds would be to obey the laws of gravity, and so arrange themselves in strata or zones according to their respective densities; here I would remark that these separations are only to be regarded as approximative, for there would always be some greater or less admixture of the substance of one zone with another, either from mechanical entanglement or diffusion.

The solid sphere would resolve itself into some three grand zones (probably with subzones) it is imagined, somewhat as follows:—

An external layer or crust of highly acid silicates, with most probably much free quartz, the bases of these silicates being chiefly alumina and potash with minor quantities of soda, lime, magnesia, etc. Below this a second zone of silicates of more basic character and greater density, the bases being lime, magnesia, alumina, oxide of iron, soda, with but minor quantities of potash, etc.; and still deeper, a far denser sphere or nucleus, containing most of the denser metallic elements, in part, at least, in combination with sulphur, arsenic, etc.

[Continued in our next.]

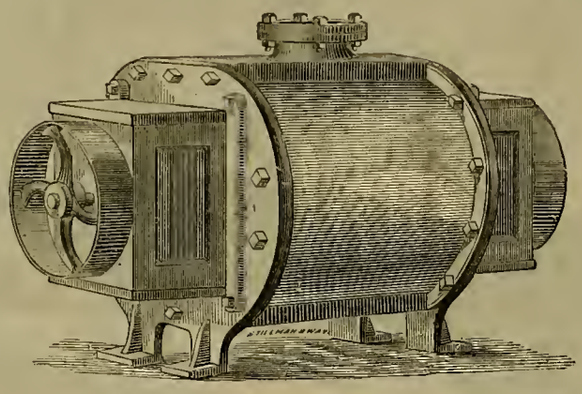
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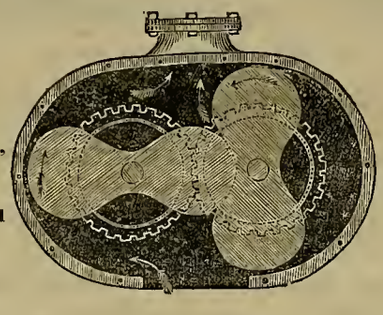
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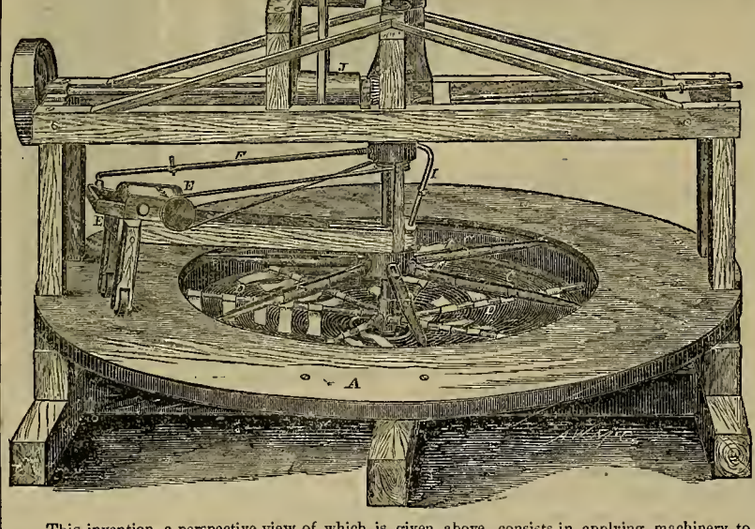
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San Francisco, August 15th, 1868. 7v17-3m

Contributions for our Cabinet.

Under this heading we shall continue to mention and describe, according to merit, such specimens of ores, minerals, fossils, curiosities, etc., as may be presented, or forwarded to us by mail or express, prepaid. Each article will be numbered and placed in our cabinet, and recorded with the name of the donor, and the claim or location from whence it came.

We are indebted to Mr. A. B. Butler, for Nos. 237 to 249 inclusive.

No. 237.—Silver ore from Dr. Harkness' mine, forty miles from Austin, Nevada. Blue carbonate of copper with impure chloride of silver, and peroxide of iron. It is probably the result of the decomposition of copper pyrites and sulphurets of silver while exposed to the salt solutions of that alkaline country; the copper pyrites (copper, sulphur and iron) changing to sulphate of copper (little sulphur, and oxygen from the air in the place of it) and oxide of iron; the sulphide of silver losing its sulphur in a similar manuer, whilst the silver and chlorine of the salt are placed on uniting terms.

No. 238.—Rich gold ore from the Petticoat mine, Railroad Flat, Calaveras County. Fine flake gold in a porous condition, from decomposition of iron pyrites. Also some beautiful minute crystals of pyromorphite (phosphate of lead) from decomposition of galena.

No. 239.—Chloride of silver from White Pine district, 120 miles east of Austin, Nevada. Yellow and purple impure chlorides, very heavy, and rich. A greenish coating on one of the specimens resembles dirty green carbonate of copper.

No. 240.—Gold quartz, showing parallel veinlets; Eureka mine, Amador County.

No. 241.—Rebellious ore from Volcano district, Amador County. Iron pyrites, and some beautiful brown zinc-blende.

No. 242.—Auriferous quartz from the Eagle mine, on the Mokelumne, near Clapp's Bridge. Iron pyrites, free gold, and barytes.

No. 243.—Auriferous arsenical iron and copper pyrites from the Pioneer mine, at Volcano, Amador County, worked by W. H. Thoss, and yielding $90 a ton by his process. Portion of the ore is honeycombed, and the surface has the appearance of peacock and horseflesh ore, (Bornite) where it has been long exposed to the action of the air, or to watery solutions.

No. 244.—Decomposed pyritiferous ore, from the Sulphurets mine, Pine Grove, Amador County, owned by Mr. Kendall, and rich in free gold.

No. 245.—Iron pyrites and galena, with specks of copper pyrites; from Soap Root mine, West Point, Calaveras County; assaying $150 per ton.

No. 246.—Beautiful quartz and gold, the latter of a slightly greenish tinge; from Church Union mine, El Dorado County.

No. 247.—Iron pyrites with free gold; brittle and mixed with granular quartz; from the Petticoat mine, Calaveras County.

No. 248.—Peroxide of Manganese; from Butte Mountain, Amador County.

No. 249.—Pyrites and zinc-blende from Mahoney mine, Sutter Creek, Amador County.

Confidential Advice.

Those who have made inventions and desire to consult with us respecting the same, are cordially invited to do so. We shall be happy to see them in person at our office, or to advise them by mail, or through the MINING AND SCIENTIFIC PRESS. In all cases they may expect from us an honest opinion. For these consultations, opinion and advice we make no charge. A pen-and-ink sketch and description of the invention should be sent together with a stamp for return postage. Write plain, do not use pencil or pale ink; be brief.

Remember all business committed to our care, and all consultations, are kept by us secret and strictly confidential. Our permanent business interests demand, as it were, a sacred compliance with our obligations as solicitors, and in reference to our strict fidelity in this respect we refer to one and all of the hundreds of inventors and patentees on this coast who have patronized us.

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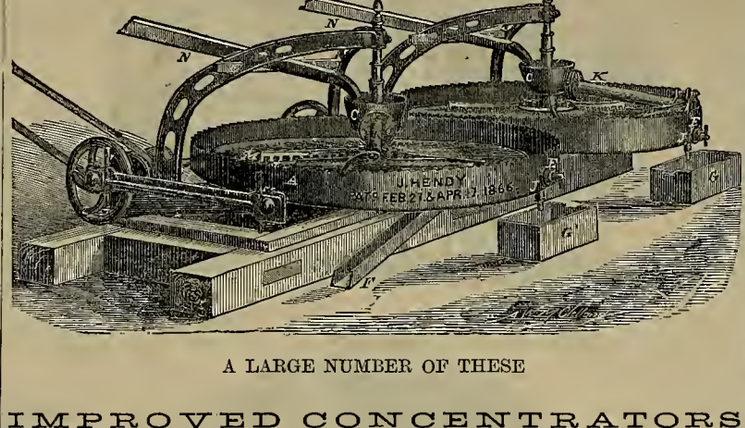
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SCIENTIFIC MISCELLANY—The Development Theory; Effect of Galvanic Currents upon Wire; Paraffine; Electrolysis of Water; Antiquity of Man in North America; Petroleum; Assay of Iron Ores

MINING SUMMARY—Comprising late intelligence from the various counties and districts in California, Colorado, Idaho, Montana, Nevada, New Mexico Oregon.

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Work at the Foundries.

A glance at the work going on in the foundries of this city, will at any time furnish the reader with a better idea of the new and enlarging industries and developments of the State, than could be conveyed in any other manner in so brief a space. It is a peculiar impression that one obtains in looking for an hour or two through the black precincts of the iron artificers. So much sturdy and noisy activity, the shaping of such essential, and at the same time such complicated and massive pieces of machinery, out of a material so unmanageable and stubborn to the ordinary hand as iron, together with the general air about the foundries, which has its influence upon the visitor while the cause thereof cannot easily be described, combine to inspire the feeling that one is, here, in the very center of the toiling world, and in the midst of all the noteworthy things that are being accomplished between Puget Sound and Mazatlan.

Beginning with the foundries on Fremont street: at the Phœnix there is a great deal of wrought iron work being done for houses, and there are several new large Kittredge safes just completed, one of which is intended for the State Treasury at Sacramento. At the Atlas Works, they are engaged chiefly on boilers and miscellaneous cast iron work.

At the City Foundry, Clerc & Co. proprietors, there is in hand and about completed, the machinery requisite for the manufacture of cement pipe, intended for Martin & Co's pipe and pottery establishment at North Beach. Also a new patent mangler for a laundry; a sawing machine; an excavator; punching machines and shears for boiler-makers in this city, Stockton and Los Angeles; several steam engines; shutters and house fronts; horse-powers for different purposes.

A new hoisting machine for gravel claims and quarries, of peculiar merits and design, being the first of the kind, and made after the drawings of the inventor, Mr. McDonald, is completed and awaiting shipment. It is stronger, and raises heavier rocks than anything that has been heretofore constructed; but the best feature connected with it is an extra sliding horizontal beam which can be carried out, with the load at the end of it, from fifteen to twenty feet beyond the end of the common beam, so as to enable the operators to deposit the rock just where they want it. Manifestly this will save a great deal of hand work. It is to be operated by a six-horse-power engine.

At the Neptune Foundry there is in progress an apparatus consisting of several tanks, the object of which is to ripen wine; probably by the d'Heureuse's process.

At the Portland Boiler Works there are several large boilers under way for a new steamboat, which is being constructed at Humboldt Bay, for Mastick & Campfield, lumber dealers. The machinery for the steamer is being made by John Lochhead.

At Garratt's Brass Foundry are to be seen two very large old Mission bells, which were cast in Peru, in 1809. They came from the mission of San Juan, in Santa Clara Valley, and the object is to have them fixed so as to admit of being swung and rung in a civilized manner, in the place of suspending them by the ancient Spanish rawhides. Two large clear-toned church bells, weighing 850 and 450 pounds respectively, which were made for the Fair, are awaiting purchasers.

At the Vulcan Foundry, a great deal of important work is being done. There are two unusually large hydraulic presses approaching completion, intended to press seed cake for the Pacific Linseed Oil and Lead Works; the rams being 16 inches in diameter, and weighing nine tons. A very fine sorghum sugar mill, with rollers 16 inches in diameter and 24 inches long, is under contract with E. T. Steen for other parties.

A good deal of railroad work is done, chiefly in small orders which are coming in all the time, for the California Pacific Railroad, better known as the Vallejo road. The Ransome Concrete Stone Company are having a tank made of boiler iron, about 20 feet in hight and four feet in diameter, for the preparation of their silicate of soda under a pressure of about 20 pounds, which is found to accelerate the operation. A 27-inch Jonval turbine is just completed for Johnson's flour mill, in Tulare Valley; also a 5-stamp battery for a quartz mining company in Grant County, Oregon, and a 20-horse power steam engine for Allen & Ranney's sawmill, Santa Cruz.

Operations at the Miners', Ætna, Fulton and other foundries, will be referred to hereafter.

How Gold Mining is Carried on in Japan.

An account is given by Raphael Pumpelly in the Smithsonian Contributions for 1866, of gold mining operations as they are carried on at Kunnui, in the island of Yesso, northern Japan,—where things are done by Japanese in their own peculiar manner, and in one of their own ancient gold fields. Mr. Atwood has favored us with the following condensation, from which, by the aid of the accompanying diagrams, the merits of the Japanese method will be readily comprehended. Pumpelly says:

Descending to the west we entered the valley of the Toshibetz, a large creek navigable with small flat boats, and soon reached the gold washings of Kunnui. This part of the valley occupies a broad depression, perhaps fifteen miles long by seven broad, and raised several hundred feet above the sea. It has been filled with

Fig. 1.

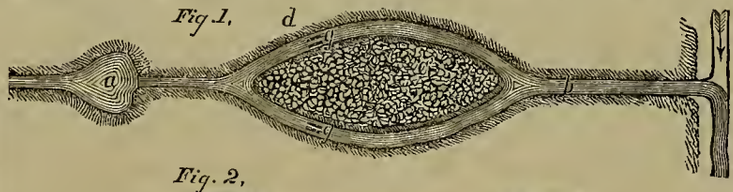
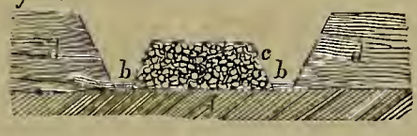


Fig. 2.



a recent terrace deposit, and subsequently eroded in part, after which an extensive deposit of auriferous gravel has taken place, over at least a considerable part of the area.

In one of the side valleys the older rocks are exposed, and here the gold-bearing drift was found resting, in different places, on an argillite similar to that seen at Washiuoki, and containing the same vermiform fossils, in strata striking N. 85° W., and dipping 50° northerly, and on an amygdaloid similar to that on the Divide. Not far from here the terrace deposit overhangs the creek in a high bluff. Out of the base of this precipice I obtained a number of well preserved fossil shells.

The principal rocks that have contributed to form the auriferous drift, are varieties of granite, chloritic and micaceous chists, quartzites and amygdaloid, with geodes of chalcedony from the last mentioned rock.

Rolled fragments of binoxide of manganese are frequent, also perhaps derived from the amygdaloid. The concentrated sand of the washing is principally magnetic iron, associated with zircon sand.

The manner of working the deposit is ingenious, and will be understood by referring to the diagrams.

At the place where I saw this process, the surface of the bedrock, in this case the marine terrace deposit was sufficiently high above the creek to give a rapid fall in the sluice-ditch.

The bed of a rivulet is chosen for the work. A reservoir *(a)* is dug and dammed, and the bed of the rivulet *(b)* cleaned out and made regular. This done, the banks *(d)* are broken down into the stream where the force of the current concentrates the gravel, carrying off the sand and clay. The workmen then place themselves in pairs up and down the stream near and below the broken down bank. Each man is provided with a coarse mat, about two feet long by one foot broad, which he places lengthwise in the stream, keeping it down with one foot on the lower end, at the same time partially stemming the current. He then hoes the gravel on the mat, much of the old gravel going off below as fresh arrives from up stream.

At intervals the mat is carefully removed and washed out into a very shallow tray or batea, a board about eighteen inches long by a foot broad, hollowed out, and having a circular depression near one end, for the concentrated head. Of the black sand obtained on this board, the head containing the gold is saved.

In this manner the gravel is pretty well exhausted of its gold, very little being obtained by the men further down the stream. The working process is sideways into the banks, and up stream, the current being kept near the banks as these recede from the center of the stream. As the space between the banks widens, the coarser materials that resist the force of the water is thrown up into a pile of loose masonry *(c)* which increases in length and breadth as the work advances.

REPORTORIAL ACCURACY VS. GEOLOGY.—A New York city item represents that a sensation was created among the up-town people of New York, the other day, by the discovery of the perfect remains of a human foot and leg, embedded in some granite which the quarrymen are blasting at the corner of Tenth avenue and Forty-second street; the granite being of a pale color, and the human remains perfectly black. Geologists have been in the habit of regarding granite as the most ancient of all known rocks, though later observations have established its occurrence subsequent to the first records of animal life. The latest authenticated occurrence of granite is in dykes amongst the Jurassic rocks of northern Italy. The fossil Bowers man of Calaveras is "nowhere" by the side of this alleged Rip Van Winkle.

GRAND BAL MASQUE.—As the Carnival Ball, given for the benefit of the Mechanics' Institute, proved a success, giving such entire satisfaction to all in attendance, a genuine Bal Masque has been determined upon at the same place, under the management of Mr. Henry Bering, to come off on Thursday evening, Oct. 15th. All intending to participate are requested to appear in costume or domino, and can remain incog. during the entire evening if they so desire.

CONTINENTAL Life Insurance Company, 202 Montgomery street, corner of Pine.

Communications.

In this Department we invite the free discussion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Mining in Amador County.

BY OUR TRAVELING CORRESPONDENT.

[Continued from page 199.]

AMADOR CITY.

Only one mine is now in operation at this point, viz.: the Keystone, owned by James McDonald, Michael Reese, and others of San Francisco, and superintended by Mr. S. Moore, of this place. On this mine the company have sunk some 400 feet and upwards. Their pay rock ranges from twelve inches to ten feet in width, and yields from $12 to $15 per ton. The ore is heavily sulphureted, assaying on an average $250 per ton. They get them worked at Jackson. The company are working their mine by two shafts, with steam hoisting works to each. They also have a steam mill of twenty stamps, concentrating their sulphurets in Hungerford's old patent, and amalgamating their free gold in battery, copper plates and pans,—a process, by the way, which appears rather antiquated, but they say they make it pay, how cheaply or largely, the writer knoweth not.

THE SPRING HILL MINE,

(J. Perkins & Co.) are repairing their mill of thirty-one stamps (water and steam power), expecting to start again soon. They are down on their lode some 400 feet; have from five to forty-five feet of quartz, and a pay streak ranging from six to nine feet. The ore is low grade, and estimated at about $10 per ton. Mr. C. W. Smith has charge at present.

North of the above place, on the main belt, nothing is being done; everything is suspended until reaching El Dorado County, in the vicinity of the Havilah mine.

SUTTER CREEK.

At this place exists the main enterprise of the county. There are five or six mines now working in this immediate vicinity, but it is questionable whether any of them are paying, except the Amador. The Lincoln, owned by Leland Stanford, Downs, and others, are working rock thirty feet below the surface; it pays $10; have a 20-stamp mill (water power); save in battery, shaking tables, and copper-colored copper plates. Mr. Downs, the Superintendent, thinks his process of saving so near perfection that it is useless to apply any of the later improvements. The "old way" suits him, whether it pays or not. In fact, the same remarks will truthfully apply to this entire district, not excepting the Amador mine, although nobody has been so frank to acknowledge it as Mr. Downs has. The Mahoney mine, owned by Mahoney Bros., are somewhat extensive in their operations. Judging from the appearance of the ore, I should think the mine could be made to pay largely if conducted on correct principles. The owners are workers, and apparently are satisfied with merely round wages. They have two shafts sunk on their mine, distant 100 feet from each other. The old shaft is down 400 feet, where the ore is eight or nine feet wide; the new shaft is only 200 feet in depth, and shows a 20-foot vein. One is run by whim, the other by steam. They have two mills (water power) one fifteen, the other twelve stamps, crushing on an average twenty-five tons per day.

The Railroad mine, C. Belden, Superintendent, are working; down 385 feet; have a 2-foot vein; rock supposed to pay $19 per ton.

A San Francisco company are sinking a prospect shaft on the Summit, south of the Amador mine. Indications for a mine appear to be efficient to warrant sinking to a considerable depth. This is owned by A. Tibbits, of Sutter Creek, and McAllister and others of San Francisco, who are supposed to be on the Amador vein, about 1,200 feet south of the Badger shaft. They are now down 115 feet, finding nothing but boulder and gouge as yet; is easily worked, costing only $12 per foot, including timbers.

AMADOR MINE.

The history of this mine being so well known, a mere outline at this time will be sufficient. It is owned principally in San Francisco; Michael Reese at present being the largest shareholder. Mr. Richard Inch, of Sutter Creek, is the acting Superintendent. This mine is composed of the old Eureka and Badger, consolidated. They are on one and the same vein, and are now connected by a 930-foot level. The company are working three shafts; the south or Badger shaft,—from which they are taking $100-ore,—is sunk to the depth of 1,100 feet; vein from three to four feet, and rapidly increasing in width. Three hundred feet north of this, is the middle shaft on the Eureka, which is down 1,000 feet. This, in connection with the north shaft, seventy feet farther north, which is 1,215 feet in depth, and having a 1,200-foot level, tap s an immense body of low grade ore, yielding an average of $10 per ton free gold, exclusive of sulphurets; which, by the way, are rich, and save in their rude manner of concentrating, about two tons per day from eighty tons of ore; this amount being the crushing capacity of the three mills running—all told—seventy-two stamps. This mine is said to comprise what is termed the "Boulder" and the "Gouge" veins, the two principal parallels forming the main belt, extending through the county; but at this point, and in this mine only, do they come together. The yield of this mine is, and has been truly wonderful. It is estimated that one man (Mr. Hayward) has taken out at least six millions of dollars, saying nothing of the hundreds of thousands supposed to have gone down the creek in the form of sulphurets and amalgam along with the tailings. In the opinion of the writer, their process is susceptible of vast improvement.

JACKSON AND VICINITY.

Two miles north of this place is situated the Oneida mine (N. Y. Co.) James Morgan, principal owner and Superintendent. This mine is extensively worked, and that, too, under the immediate supervision of a thorough bred miner. This company are down on their ledge 500 feet, and have from six to thirty feet of quartz. The ore is of a low grade, the highest average of a run being $17.50 per ton. They have a large mill (steam) running sixty stamps, and are now using twelve of Hungerford's latest improved concentrators, which work beautifully, and are entirely satisfactory to the Superintendent. Mr. M. is constantly studying and reducing to practice, economy in handling and working his ores. In the matter of fuel, he has secured a coal mine at Ione Valley, ten miles distant; this he is now using successfully, effecting thereby a saving of at least 50 per cent. in cost of fuel. The coal or lignite vein is seven feet thick, and is taken out at scarcely no expense in mining. The whole cost per ton, delivered at the mill, does not exceed four dollars. It burns beautifully, and seems to fill the bill in every particular.

The Kennedy mine is owned by Fleming Fuller, and others. They are down 250 feet; vein from three to eighteen feet in width. From its past history, it is considered the richest mine in this whole vicinity, usually averaging $20 per ton. The company are now erecting a 20-stamp mill, and will get to running during the present month (September).

Messrs. Coney & Bigelow have a six to twelve foot ledge; are down 300 feet; ore heavily sulphureted, which assays $160 per ton; have a 26-stamp mill (steam power) and are using Hungerford's old patent for concentrating sulphurets, in connection with two hands with hoes, and another with a wheelbarrow. Taken altogether, this process is nearly equivalent to Hungerford's improved, or Paine & Stephen's patent. This company have, however, in a measure, redeemed themselves by erecting chlorination works of about five tons capacity for twenty-four hours. Here they not only work all of their own sulphurets that they can save, but purchase and work a great deal for other parties. This branch of the institution is evidently making money. During the first three months' work, they took out over $16,000.

The Hardinburgh mine, the writer was unable to visit; learned, however, that they very recently struck it rich, and that they are highly elated with their prospects.

At Volcano, very little is doing in quartz at present, although placer mining,—in the hands of Italians, mostly,—is very good. The Italian quartz mine (Sorocco Bros.) have quite recently struck some very rich rock. The Pioneer ledge is leased by the Sorocco Bros., who get their ore (which is very rebellious) worked at W. H. Thoss' mill. This mill is simply an overshot wheel, a rock crusher, and two 10-foot pans or arastras. With this machinery, Mr. Thoss works any ore they fetch, no matter how refractory, up to within five per cent. of fire assay, and occasionally as close as two per cent., and at a cost not to exceed six dollars per ton. Probably not a mill in the State could take out five dollars on the same ore, except by chlorination. Mr. T. does not concentrate, but works all the rock, thereby saving a heavy percentage lost in concentrating. With his mill as it is, he works nearly 3½ tons per twenty-four hours. His pans are formed with heavy iron bottoms, and a light lining of iron on the sides. It is rigged arastra form, using heavy drags of basaltic rock, and running about twenty-five revolutions per minute. The writer witnessed the working of a batch of ore (eight hundred pounds). This was ground only four hours, when a clean up, occupying only fifteen minutes time, was made; the result was 17½ ounces of dry amalgam, worth two dollars per ounce, or $35. This statement may seem incredible, but one thing is certain, that Mr. Thoss is making money, and cares not particularly, so far as he himself is concerned, whether the community believe it or not. He works nothing but what others cannot work; all he requires, is to have the rock assay well, and at a cost of six dollars per ton he will work within five per cent. Those who doubt are privileged to take his tailings and make their own assays.

ABOUT PINE GROVE

there is some fair looking quartz. Mr. Kendall has a mine called the Sulphurets, that looks very well. Free gold is quite visible through a considerable portion of the rock. There are many other leads in this vicinity that look well; all that is required, apparently, is capital and good management to make them paying mines.

B.

Lecture on Chemical Geology.

[Delivered before the Fellows of the Chemical Society, London, February 20, 1868.]

BY DAVID FORBES, F.R.S., ETC.

[Continued from page 223.]

Whilst on the one hand, the zones formed in the earth are considered to have possessed a somewhat stable or permanent character, those formed in the atmosphere would, on the contrary, be the reverse; for no sooner had the gasiform products forming them, by, in the first instance, obeying the impulse of gravity, and so overcoming the counteracting tendency of the laws of the diffusion of gases, than these latter would assert themselves, and in process of time entirely obliterate this arrangement.

In the first instance, however, we should have the atmosphere next the earth composed of a dense vapor of those compounds volatile only at a high temperature, amongst which the vapor of chloride of sodium or salt would be probably one of the most prominent. Above this we should find the carbonic acid, then oxygen and nitrogen, whilst the vapor of water would be elevated still higher. As before stated, such an arrangement would be gradually obliterated by diffusion, but as the element of time is one of vital importance for considering the effects of diffusion, it is imagined that before being obliterated this arrangement may possibly have had considerable influence in modifying the chemical reactions which took place at this period in the earth's history.

The effect of the cooling of such an atmosphere would be, in the first place, to condense the vapor of salt and other chlorides, etc., upon the already solidified crust of the earth, covering it with a layer of these substances in a solid state, the chloride of sodium in which has been calculated to have alone been sufficient to clothe the entire sphere with a coating of salt some ten feet in thickness.

A still further reduction in temperature would now condense the steam in the atmosphere, which falling as rain on this saline crust, would, in greater part, dissolve it, forming the ocean, which would thus be salt from the first moment of its appearance on the face of the globe. The atmosphere now surrounding the earth would contain much less oxygen, and all the carbon in the form of carbonic acid (excepting only the amount of that acid carried down with the rain), but otherwise would probably not differ much in composition from what it is at the present moment.

Regarding the above as merely a sketch, in the main correct, I would, however, remark that it would be absurd to attempt to define, with any sharpness, the exact action and extent of the reactions, or to insist that the entire amount of any one element entered only into one particular state of combination, to the exclusion of all other reactions, which might have been influenced by circumstances, amongst others, of position and time. My meaning may be best explained by an experimental illustration. If we suddenly throw a little sulphuric acid into a solution containing both lime and baryta, the precipitate which is at once thrown down is not pure sulphate of baryta, but an indefinite mixture of the sulphates of baryta and lime; for the sulphuric acid immediately seizes upon the earths nearest it at the moment, and before it has time to obey its superior affinity for baryta, it is carried out of the field of action as a precipitate of mixed sulphates.

I will now enter into a consideration of the arguments which are brought forward in opposition to this view.

It is advanced, in the first place, that the chlorine, instead of uniting with the sodium, as supposed by me, would have combined with the hydrogen and gone into the atmosphere as hydrochloric acid. Believing that the hydrogen would have united with the oxygen to form water, I also contend that the affinity of sodium for chlorine is greater than for hydrogen, since sodium, both in the cold as well as hot, decomposes hydrochloric acid, whilst, on the contrary, hydrogen, whether cold or hot, does not affect chloride of sodium.

It is further advanced that the sodium really united with oxygen to form soda, which would be converted into silicate of soda by the mutual reactions between soda, steam, and silica. In this explanation secondary reactions are dealt with, instead of primary, which are supposed to be specially characteristic of this stage in the world's history. It must also be remembered that carbon, at a high temperature, reduces soda, and that the volatility of sodium would bring it in contact with chlorine in the atmosphere, whilst the silica remained below in the earth's mass in the solid form at this temperature. A portion of the sodium is, however, admitted by me to have combined with oxygen, and to have subsequently become silicate.

Against my supposition that the sulphur mainly united with the denser metals to form sulphides which at once sunk through the still fluid external zone of silicates, and so became protected from oxidation, it is contended that the sulphur would have united with oxygen and gone into the atmosphere as sulphurous acid. Here it must be remembered, however, that this reaction took place in the presence of a vast amount of hydrogen, carbon, silicon, phosphorus, etc., along with alkaline and earthy metals, all ready to seize the oxygen, and capable of decomposing sulphurous acid if formed.

Sulphurous acid is decomposed by the other metals at an elevated temperature, with the production of oxides and sulphides of these metals, as also by carbon, with the greatest ease, with the separation of sulphur (the subject of a patent taken out by Gurlt some years back for the recovery of sulphur from the fumes of metallurgical works). In addition to all this it must not be forgotten that the atmosphere then contained an overwhelming amount of carbonic acid and nitrogen, which would both act as a shield against oxidation, as well as dilute, if not entirely prevent, the effect of any strong oxidizing action, this being proved by the comparatively small amount of oxygen present in the atmosphere of this epoch.

In considering that the center nucleus of the earth must contain a vast accumulation of the denser metals and their compounds, I have done so for the following reasons:

The mean specific gravity of the earth is proved to be about 5·4, and, leaving the water out of consideration, the mean density of the solid exterior with which we are acquainted cannot be assumed to be higher than 2·75; it follows, therefore, that the internal portion of the earth must possess an immensely greater density than the exterior.

This has been explained by supposing that the increase in density towards the center arose entirely from the increased pressure, but experimental inquiry does not appear to warrant a conclusion which would require that even the most solid and compact rock we know at the surface should be (if found at the center of the earth) condensed into a mere fractional part of its volume; for, so far as experimental inquiry has gone, it has tended to show that after a certain point bodies either attain a maximum density or that the condensation bears a less and less ratio to the increase in pressure employed, thereby indicating the necessity of seeking for other explanation than the mere mechanical effects of pressure, in order to account satisfactorily for the great density of the earth's interior.

A simple calculation will show that if we regard the mean specific gravity of the earth as 5·44, and that of the external zone or crust as 2·75, and imagine that the earth is composed of three concentric layers of equal thickness, and of densities increasing respectively in arithmetical progression, there would be respectively an outer crust of specific gravity 2·75, an intermediate one of 10·82, and a central kernel, or nucleus, of 18·89; and if, instead of three zones, more than this number are imagined, then a similar calculation will show that the specific gravity of the central nucleus will be still higher.

Mechanical.

THE EFFECT OF THE ENVELOPE UPON A CHARGE OF POWDER.—This is a subject not yet fully understood. Many engineers have considered that the charge necessary to produce a certain effect should be calculated over and above the amount necessary to burst the box or other vessel used to receive the charge. Others oppose this view. *Engineering* has the following upon the question:

"That a very slight envelope suffices in some cases to influence the effect of a charge of powder is proved by the result of an experiment made some forty years since by the French general Pelletier. Fifteen kilogrammes of powder were placed upon a table and ignited. The gaseous products expanded freely in the surrounding air, and a very slight indentation of the table and a loud report were the only results. The same quantity of powder was again laid on the table, and covered over with a thin sheet of letter paper. The charge was ignited and the table was blown to pieces. Here the effect was, of course, due to the atmospheric pressure acting on the surface of the paper, and preventing to a certain extent the expansion of the gas. In practice it would seem that to produce any appreciable effect the envelope must be excessively strong, as in the case of shells. The Austrian Engineer Commission appear to have adopted this view of the case, for we are told they have recommended the employment for field service, of a *baril foudroyant*, for the destruction of stockades, walls, etc., and particularly of the iron railway bridges which play so important a part in modern lines of communication. It is described as a solid case of Bessemer steel charged with thirty kilogrammes of powder, and it is said to have produced the total destruction of a vault of masonry three feet in thickness.

In the present day, when gunpowder appears likely to be replaced (in engineering operations at least) by other compounds far more sudden in their mode of action, it is possible that a more careful study of the envelope question may lead to valuable suggestions."

INGENIOUS HEAT REGULATOR.—The following neat device for securing an equable temperature in hot houses or other buildings where it is desirable, is described as a recent English invention. A platinum wire is so inserted in the bulb of an ordinary thermometer, as to be in connection with the mercury. Another wire is so arranged as to be easily brought in contact with any part on the graduated scale of the thermometer. The two wires are connected with the two poles of a battery; and forming part of the circuit is an electro-magnet, whose armature controls the opening or closing of a valve regulating the admission of hot air. If it is desirable that the temperature of the room should not rise above 60° Fah., the point of the movable platinum wire is brought to that number on the thermometer. When the mercury registers 60°, the circuit is closed, and the armature of the magnet closes the hot-air valve, until the temperature becomes reduced, when the valve is again opened. Thus a nearly even temperature may be maintained.

HOT JOURNALS.—Water, when used as a lubricator for journals, does not act in the manner in which oil acts. In fact the friction is greater with water than with oil; but, by boiling at 212°, it keeps down the temperature, and thus prevents friction. It carries off the heat in a latent state, in the form of steam. Generally, *cold* water may be used; but if the journal be already very hot, the water must be used *hot* at first, lest the sudden cooling cause splitting of the plower-block.

TO BREAK LARGE MASSES OF IRON.—The following method is given by an English engineer: A hole, say an inch in diameter, is bored in the mass, somewhere near its center of gravity. This hole is filled with water, and closed with a smooth iron stopper. The latter is then brought under the iron ram and driven in by one stroke, by which, as there is no escape for the water, the mass is fractured.

Limit of Pressure Between Rubbing Surfaces.

We take the following from an article on "Bearings" in a recent number of the *American Artisan*:

The common law of the simple proportionality of friction to pressure is only true for dry surfaces when the pressure is not sufficiently intense to indent or grind the surfaces; and for greased surfaces when pressure is not sufficient to force out the unguent from between the surfaces, where it is held by capillary attraction. If the proper limit of intensity of pressure be exceeded, the friction increases more rapidly than in the simple ratio of the pressure. That limit diminishes as the velocity of rubbing increases, according to some law which has not yet been exactly determined. The following are some of its values deduced from experience: For railroad car-axles, with a rubbing velocity of one foot per second, the limit of pressure is 400 pounds per square inch; for two and one-half feet per second, 225 pounds; for five feet per second, 140 pounds; and for timber ways for launching ships, about 50 pounds. According to Bourne, if the pressure exceeds 800 pounds per square inch upon the section of the bearing in a direction parallel with the axis, the oil will be forced out, and the bearing will necessarily heat. He also gives the following empirical rule, which has been derived from observations made upon bearings of different sizes and moving with different velocities, for determining the limit of pressure which will be safe in practice; or, with a given pressure, for determining the limit of velocity: "Divide the number 70,000 by the velocity of the surface of the bearing in feet per minute. The quotient will be the number of pounds per square inch of section in the line of the axis that may be put upon the bearing. Or, if we divide 70,000 by the number of pounds per square inch of section, then the quotient will be the velocity in feet per minute at which the circumference of the bearing may work." It may be well to mention that, in making calculations upon the area of cylindrical bearings, it is not the cylindrical surface, or circumference of the bearing multiplied by its length, that is to be considered, but the greatest rectangular cross-section, or length of the bearing multiplied by its diameter.

SIZE OF IRON BAR TO SUPPORT A GIVEN WEIGHT.—To find what should be the dimensions of a bar of square iron to support a given weight, divide the weight in tons by five, extract the square root of the quotient, and the result will be the length of the side in inches. Example: What should be the length of the side of a square bar to support twenty tons? Answer: two inches. So with any rectangular bar not square; if either the breadth or thickness be given, divide the weight by five times this dimension, and the result will be the other one. To find the weight which a rod of given diameter will support, square the diameter in inches and multiply by four. The product will be the safe working load in tons. Thus, a rod three inches in diameter will safely support thirty-six tons. We condense the above from *The Engineer*.

NEW IDEA FOR STEEL RAILS.—The objection to rails entirely of steel is their great cost. The objection to those which have a top surface only of steel, is the liability of that surface to peel off. A London journal says that Mr. Peter Ashcroft, Engineer of the South Eastern Railway, has invented an ingenious contrivance for using the least steel in rails, while presenting only a steel surface to the wheels, and enabling renewals to be readily effected. "He introduces between a pair of iron plates a steel rail, which fits in between the iron plates, the steel being tightly secured by screwing the iron plates up. The trains work only upon the steel, and when it is necessary to renew it, it is done by simply unscrewing the iron plates, taking the old steel rail out, and putting a new one in. We hear the plan is working extremely well on the Charing-Cross line."

A FINELY constructed stone bridge is being put up at the crossing of Humboldt, eight miles below Oreana, of granite obtained from O'Connor's quarry, near Humboldt.

Scientific Miscellany.

THE DEVELOPMENT THEORY.—The July number of the *Popular Science Review* contains a lecture by Prof. Huxley, on the fossil links between the families of birds and reptiles. We quote a portion of the conclusion:

"I have now, I hope, redeemed my promise to show that, in times past, birds more like reptiles than any now living, and reptiles more like birds than any now living, did really exist. But, on the mere doctrine of chances, it would be the hight of improbability that the couple of skeletons, each unique of its kind, which have been preserved in those comparatively small beds of Solenhofen slate, which record the life of a fraction of Mesozoic time, should be the relics, the one of the most reptillian of birds, and the other of the most ornithic of reptiles. And this conclusion acquires a far greater force when we reflect upon that wonderful evidence of the life of the Triassic age, which is afforded us by the sandstones of Connecticut. It is true that these have yielded neither feathers nor bones; but the creatures which traversed them when they were the sandy beaches of a quiet sea or lake, have left innumerable tracks which are full of instructive suggestion. Many of these tracks are wholly indistinguishable from those of modern birds in form and size; others are gigantic three-toed impressions, like those of the Weald of our own country; others are more like the marks left by existing reptiles, or *Amphibia*. The important truth which these tracks reveal is, that, at the commencement of the Mesozoic epoch, bipedal animals existed which had the feet of birds, and walked in the same erect or semi-erect fashion. These bipeds were either birds or reptiles, or more properly both; and it can hardly be doubted that a lithographic slate of Triassic age would yield birds so much more reptilian than *Archæopteryx*, and reptiles so much more ornithic than *Compsognathus*, as to obliterate completely the gap which they still leave between reptiles and birds. * * * In conclusion, I think I have shown cause for the assertion that the facts of Palæontology, so far as birds and reptiles are concerned, are not opposed to the doctrine of evolution, but, on the contrary, are quite such as that doctrine would lead us to expect; for they enable us to form a conception of the manner in which birds may have been evolved from reptiles, and thereby justify us in maintaining the superiority of the hypothesis, that birds have been so originated, to all hypotheses which are devoid of an equivalent basis of fact."

EFFECT OF INTENSE GALVANIC CURRENTS UPON WIRE.—Mr. James Wylde says that if intense currents are passed through wire *in one direction only*, its tenacity is gradually destroyed, so that at last it may be crushed in the fingers. His experiments show that a complete molecular change occurs; and this in the greatest degree at the negative pole. A crystalline structure takes the place of the fibrous. This change is prevented by a frequent reversal of the current.

PARAFFINE.—Bolley has found that paraffine fusing at 53 degrees Centigrade and having the composition — carbon, 85.61, hydrogen, 14.69,—when exposed to air, and heated to 150 degrees, Centigrade, for eight days, becomes at last changed into a tough, doughy, blackish mass. Part of this is unaltered paraffine soluble in absolute alcohol; but after the removal of this a dark brown residue, of carbon, 70.04; hydrogen, 10.25; oxygen, 19.72, is left. Paraffine is probably a mixture of various hydro-carbons, with various boiling and melting points.

ELECTROLYSIS OF WATER.—M. Bourgouin, in a recently published paper upon this subject, asserts that the acid or alkali which is added to the water to make it a conductor, does something more. When potash was employed, he observed that the amount of hydrogen disengaged was always proportional to the amount of potassium carried to the negative pole, and his opinion is that it is a hydrate of potassium $K HO^2$ which is decomposed. Similarly, in the case of water acidulated with sulphuric acid, he believes that a hydrate $S H' O6$ is the body electrolyzed, and that the excess of water takes no further part in the action than to continually replace that removed from the compound named.

ANTIQUITY OF MAN IN NORTH AMERICA. In the reported proceedings of the American Association for the Advancement of Science, which met at Chicago in August last, we find mention of a paper which was read by Mr. J. W. Foster upon the above named subject. After discussing the conditions under which human remains had been discovered in Europe, he took up the question of the mound-builders of our own continent. He considers them to have been in advance of the stone age men in Europe. He exhibited two specimens of pottery from near Belmont, in Missouri; and pointed out the difference between the features of the human face represented upon one of these and the features of the North American Indians. The other specimen, probably a statuette, gave evidence of considerable advance in the sculptor's art; the arms being represented as bound to the trunk by cords, as if it were a captive, and the features bearing an expression of pain. He conceives that the excavations at Lake Superior which must have been made by this same people for mining purposes, are at least a thousand years old.

Want of space compels us to defer to next week a more extended notice of the discussion which took place upon this subject.

PETROLEUM—PENNSYLVANIA AND CALIFORNIA.—At the recent meeting of the National Academy of Sciences, Prof. Whitney read a paper by Prof. Peckham, giving his idea of the source of both the Pennsylvania and California petroleums. He considers the latter of animal origin, and not, like the former, the product of the decomposition of woody fiber, or of the natural distillation of shales and soft coal. He says:

"The small amount of nitrogen present in the Pennsylvania oils does not make their origin from plants impossible; but when one comes to the later oils of California, so much nitrogen is present as to render the decomposition of the petroleum analogous to putrefaction of animal flesh. Theoretical formulæ, showing how stearic acid, and the stearate and oleate of glycerine might easily be changed into the oils or hydrocarbons, were presented. Profeine, when subjected to decomposition, submerged in water, would give rise to a nitro-hydro-carbon like the California oils. At one locality in California the boring penetrated several feet through a mass of fossil bones, saturated with the fluid. The liquid retained for several days the cellular structure of bone, but finally lost its organic structure by exposure. If it be objected that a petroleum derived from animals ought to contain phosphorus and sulphur, it may be clearly shown that the aqueous conditions of decomposition will remove both the elements as soluble compounds, and scarcely any traces of them be left behind. Petroleum was hence divided into two classes: the first contains paraffine, and forms asphaltum by inspissation, or absorption of oxygen from the air; and the second contains no paraffine, and forms asphaltum by decomposition. The first are the liquids from Oil Creek, Pennsylvania, the second are well represented by the petroleums of Southern California. The latter are not held in natural reservoirs, as in Pennsylvania. The strata are tilted at every angle, and the fissures are of limited extent, so that the oil is really kept in place by capillary attraction. The wells bored there have varied from 50 to 400 feet in depth."

ASSAY OF IRON ORES.—A writer in the *Chemical News* gives a hint which is worth the attention of those who make analyses of ferruginous minerals. He says: "On attempting to dissolve in HCl, a certain residue remains (with hematite ore, for instance); and it is rather a long process to have recourse to fusion with sodic carbonate to separate the silica and iron. I tried fusion with bi-sulphate of potassa at a dull red heat, which converts the iron into a sulphate, leaving the silica beautifully white. The time is, for one grm. of mineral, about ten to fifteen minutes. Should sulphur and phosphorus be required, they may be obtained by drenching a sample with fuming nitric acid, and manipulating in the ordinary manner. The residue may then be treated with bisulphate, to separate the remainder of the iron from the silica."

New Patents Issued to Pacific Coast Inventors.

Specially reported by the U. S. Patent Office, Washington, D. C., to Dewey & Co., American and Foreign Patent Solicitors, and Publishers of the Mining and Scientific Press.

Issued for the Week Ending September 22d, 1868.

82,277.—Improvement in Spark Arrestors for Steam Generators.—Walter C. Benn, San Francisco, Cal., assignor to self, L. L. Baker and R. Hamilton, of same place:

1. I claim the stack or chimney A, with the curve *a*, as shown, and the water vessel C, together with the supply and discharge pipes b, b, and d, the whole constructed and arranged substantially as herein described.

2. The secondary bonnet D, and the annular water trough E, ae arranged for more completely extinguishing the sparks, substantially as described.

3. I claim the conical vessel C, and bonnet D, movable in the slides *c*, *c'*, *c*, for regulating the draft, the whole constructed and arranged substantially as herein described.

The object of this invention is to arrest the sparks that are forced into the smoke stacks of steam generators, and to extinguish them before they escape. Many devices having this object in view, have been patented, but most of them do their work imperfectly. The construction of the smoke-stack in this device is such that the sparks are caught by a curve at its top, and fall into a conical vessel filled with water, which is suspended inside the smoke stack, immediately below the curve. The conical vessel is so arranged on slides that it may be moved up and down, to regulate the draft, and pipes are so disposed at the bottom and top that it may he filled with water, or the water and cinders drawn off by simply turning a cock. To arrest any sparks that may have escaped an annular trough, also filled with water, is placed around the top of the stack, and a honnet, which may be raised or lowered, surmounts the whole, thus effectually preventing any of the lighted cinders or sparks from escaping.

82,278.—Improved Mill Stone Balance. Walter C. Benn, San Francisco, Cal., assignor to self, Livingston L. Baker and Robert Hamilton, of same place:

I claim the combination of the adjustable weights D, D, and the ways C, C, together with the operating screws E, E, and the elevating screws *b*, *b*, or an equivalent device when used for balancing mill stones, the whole constructed and arranged substantially as herein described.

Balancing mill stones is one of the most tedious and perplexing tasks of a miller, as it is necessary that both their standing and running balance should he perfect, since otherwise the grinding surface will not be even and regular enough to produce good flour. In this invention that result is accomplished hy placing inside of the box which surrounds the stone, four weights, which lie opposite the driving point in the center of the stone, and slide in ways, along which they are moved by set screws operated from the outside on the verge or circumference of the box,. The balance is obtained by moving these weights, by means of the screws, toward or from the center and up and down, as may be necessary, until the true balance is obtained.

82,291.—Improved Belt Buckle.—Francis Clausen, San Francisco, Cal.:

In a belt buckle, I claim the bevcled projecting lip B, in combination with the elotted bar C, rotating on its axis, as shown, and the operating level b, the whole constructed and arranged substantially as and for the purpose described.

The object of this invention is to provide a lady's belt buckle that will retain the movable end of the belt without the necessity of piercing it full of holes and thereby destroying it. The end of the helt is held by being placed between the protruding beveled lip and the slotted bar; when the bar is forced down past the projecting end of the lip, the belt is firmly without the aid of teeth.

82,312.—Improvement in Hens' Nests.—B. F. Hayward, Nebraska City, Nebraska:

I claim the nest box C, pivoted bottom board D, link *b*, levers E, and grating *d*, all constructed and operating substantially as described within a box A, all as set forth.

82,315.—Improved Process of Extracting Precious Metals from Ores, Etc.—Geo. P. B. Hill, Virginia City, Nev.:

I claim the ingredients above enumerated mixed or compounded, and added to the ores, pulp tailings and slimes, in about the proportions herein specified for the purpose set forth.

82,320.—Improved Wood Pavement.—D. W. Hunt, San Francisco, Cal.:

I claim a pavement, the blocks of which are secured in position hy means of cement run into horizontal grooves or recesses cut around each block, the blocks and grooves being formed and arranged substantially as described.

By this patent the inventor has secured a very simple and economical method of constructing and laying wood pavements, either for streets or side-walks. The blocks are made square, and each one has a groove cut around it horizontally near the center of its depth, so tbat the open spaces of the different blocks are all connected. These spaces are connected with the upper surface of the pavement by means of openings formed by laying the blocks so as to break joints, and the spaces are then filled with asphaltum, which serves to hind the whole together, thus forming a pavement at once elastic aud permanent.

82,321.—Improvement in Oil Cup.—Edwin Hurd, Virginia City, Nev.:

I claim the arrangement of the frame E, the hollow cylinder *a*, pivoted within it and having passages for the reception of oil, for the escape of air, and for the delivery of the oil through the pivots on which it turns substantially as described.

This invention relates to an improved lubricating cup to be used more especially in steam-chests and cylinders, or in any place where the lubricant is to be introduced against pressure; and it consists of a partially rotating cylinder, standing between the receiving cup and the point at which the oil is to be used. The cylinder has an opening at the top corresponding with one from the receiving cup, when in one position, and when the cylinder is rotated to another position, a holo in the bottom allows the oil to flow to its destination, the upper opening being meantime closed by turning the cylinder to its new position, and thus relieving the upward pressure of the steam. The cylinder turns on peculiarly shaped pivots at either end, supported in a frame so as to he easily kept steam tight, and having but little wear, and it cannot be operated wrongly by the most ignoraut.

82,350.—Improved Track Laying Machine for Railroads.—Wm. D. Robertson, San Francisco, Cal.:

1. I claim as a new application to construction trains, for supplying power to carry forward from the rear car to the place of deposit, the rails aud ties, the engines *a*, *a*, mounted ou the central car, substantially as described.

2. The shaft f, with the screw g, actuating the trucks b, b, by the beveled gear k', 1', or their equivalents, substantially. as described.

3. The pulley *u*, on the rear truck axle of the engine for driving the friction rollers which carry the ties to the incline trough beneath the boiler of the engine, substantially as described.

4. The friction rollers *t* and *u*, in combination with the channel or trough V, substantially as described and for the purpose specified.

5. The pulleys g', and the helts W and W', or equivalent devices for actuating the cutters, substantially as described.

6. Carrying the rails forward at each side of the boiler and lowering them to the road bed by the davits A, A, substantially as described.

7. The rollers g, g', r, r', s, s, s, s, the endless chains p, p, or equivalent device for pressing down and holding tho ties while the cutters trim them, substantially as described.

8. The cutters V, V, for leveliug and trimming the ties to receive the rails constructed and operating substantially as described.

This invention relates to the manner of loading the ties and rails for railroad tracks, on common platform cars, of hauling forward the loads from one car to another, and up to the rear end of the machine, the passing of the material, the ties and rails, from the rear of the machine to their respective places forward, and preparing the track for the passage of trains over it. This machine, which has been for some time successfully at work on the new railroad from Vallejo to Sacramento, has been fully described in the Press.

82,440.—Improvement in Fastening for Buttons.—Alfred Rix, San Francisco, Cal.:

I claim the headed shank and open washer for securing the button to the cloth or garment, constructed substantially in the manner and for the purpose set forth.

Reissues.

3,137.—Improvement in Anchors.—Frederick Wittram, San Francisco, Cal. Patented June 9th, 1868:

1. I claim openings made lengthwise in the shank of an anchor, through which arms or flukes move freely to either side, substantially as herein described.

2. The placing of two or more jointed arms or flukes at different portions of the shanks length, at or about at right angles to each other.

This is a valuable invention, which has already been mentioned in the Press. It is now being patented in the leading European countries through the Mining and Scientific Press Patent Agency.

California Academy of Sciences.

A Regular Meeting of the Academy was held on Monday evening, October 5th, the President, Dr. James Blake in the chair, and fourteen members present.

Mr. W. H. Dall, who had just arrived from Alaska, being present, the regular proceedings of the Academy were postponed in order to listen to an account of his explorations in that country. Mr. Dall has resided there during the last two years, and has been engaged in studying the geography, geology, climatology, natural history and ethnology of the country; and he and his companion were the first white men that ever penetrated some of the interior regions. He has compiled a vocabulary of the language of the various tribes, by which he is enabled to deduce some interesting facts regarding their history. He has also visited Kamtschatka and the islands of the vicinity, and from the similarity in language and customs of the coast tribes of Alaska to those of Kamtschatka, he concludes that they are recent emigrants from Asia, and indeed, that are still coming over. They carry on quite an extensive commerce across Behring's Straits in skins, frames for boats, hunting and fishing equipments, etc. The Asiatic emigrants, however, are confined to a few leagues of country along the coast and large rivers, while a totally different people inhabit the interior. The boundary line between these two races is very marked, and encroachments on each other's territory are never tolerated. If a hunter passes the line in the chase and kills any game, he can take the carcass away, but must leave the skin at the nearest village. They are as strict as the Jews in preserving purity of blood, for they never intermarry. The interior Indians are the true aborigines of America, having the same characteristics as the Mound Builders farther south, and the race distinctions are identical throughout North America.

The Youkou Indians on the coast do not build ice houses, but Mr. Dall showed an intelligent Youkon Capt. Hall's picture of an igloo in the Greenland and Hudson Bay regions, and asked if he knew what it was. He replied that he did, and that the people up north built them and called them igloos. The name for ice house, (igloo) and the names of various animals are the same on the northern coast of British America. The tribes take their names from the river, valley or mountains which they inhabit, as the "Men of the Youkou," "Men of the Tanana," "Men of the Mountains," etc., and they each have local customs peculiar to themselves. In one tribe their dead, instead of being *laid out* for burial, are doubled up in the most compact form possible. Before they are cold, the knees are doubled upon the chest, the head bent back between the shoulders, the arms wound about in curious style, and thus left to stiffen. They are then placed in boxes painted with figures indicating their pursuits and condition in life, and buried with all their worldly goods. Two feet beneath the surface there is eternal ice, and the cold seems to embalm them, for if dug up a few months or years afterward, they will be found fully preserved but withered and dry like a mummy. Others again place the bodies erect on the surface, drive posts down around them, and bind all up tight with skins; and here they wither in their narrow house. Others, yet, tie them up like a "bucked" soldier and cast them out to the crows and foxes. If the flesh is all eaten from their bones before it commences to decay, then it is supposed that their souls are sure of bappines; but if neglected by the wild beasts it is an omnious sign. Their arms and property are placed near them, and the most skeptical never dare rob the dead, nor handle their property. The waters of the Tanana, a river of mountains, had never before been disturbed hy the paddles of a white man, and away in the interior was a small stream which the Indians would never approach on account of a superstition concerning it. If they should shoot arrows at a certain hill there, the arrows would disappear in the air and great evils would come upon them. Into this country Mr. Dall ventured, not having the fear of the Indian gods before his eyes, and found great numbers of fossils. So abundant were they that it seemed as if some commotion or convulsion had driven the animals there—the mastodon, elephant, deer, musk ox—and suddenly destroyed them. So many huge bones may have frightened the Indians and given rise to their superstitions.

The Aurora Borealis was often seen, and Mr. Dall says it appears as if caused by some substance borne along in the air which reflects the light. The Esquimaux will never look at it, for they believe it is supernatural, and fear it. They say also that it affects the eyes. After a careful study of the question of an open Polar Sea, Mr. Dall is firmly convinced that it does not exist. He believes that an unbroken sea of ice stretches over from America, past the North Pole, to Asia. Evidences in support of the open sea theory failed to present themselves to his observation. Ducks and geese are innumerable along the Alaskan Coast, but they are never seen flying northward of the main land. The Eider duck comes from the East Indies to breed. Butterflies are very plentiful, and many of the species found in the Atlantic States are common. Flowers are not abundant, and are quite scentless. This is the land of herries, for here in profusion grow the cranberry, raspberry, heathberry, salmouberry, currant, etc., and a species of wild cherry is found, but it is simply a seed without the pulp. It is usually supposed, and so represented on maps, that the Rocky Mountains extend to the Arctic Sea; but this is erroneous, for the mountains end at about the headwaters of Porcupine River, and a level plain or disconnected hills make up the remainder of the landscape northward. This summer has been the coldest known there for eighteen years. In the Youkon region, no traces of glaciers were discovered, and it is believed none ever existed north of the Alaska backbone. South of that, along the entire coast, the deep inlets and fiords, resembling the Norwegian fiords, are supposed to have been caused by glacial action, as there is always a glacier at the upper end of them.

[Other facts respecting the geology of the country which were presented by Mr. Dall have been given in separate articles in the last number of the Mining and Scientific Press.]

The next meeting of the Academy will take place on Monday, October 19th. Meantime, a steamboat excursion is to take place to some point, not designated, on the bay.

New Incorporations.—Articles of incorporation have been recently filed in the County Clerk's office in this city as follows:

Shasta Hydraulic Mining Co.—Sbasta county. Oct. 7th. Capital stock, $100,000; 100 shares, $1,000 each. Trustees: Edward Gibbons, Rodman Gibbons and Jas. E. Freeman.

Homestead Association.—San Francisco. Oct. 7th. Capital stock, $51,000. Trustees: James Smith, H. C. Swain and W. Turnbull.

Concordia Gold and Silver Mining Co. El Dorado county. Oct. 8th. Capital stock, $320,000; 3,200 shares, $100 each. Trustees: F Stanle, A. J. Downer, S. C. Bradshaw, I. Moffit and Robert Kirk.

Election of Officers.—Bank of California.—Oct. 6th. Trustees: D. O. Mills, W. C. Ralston, W. E. Barron, N. Luning, Thos. Bell, D. J. Tallant, A. Hayward, Louis McLane, John O. Earl, L. Sachs and A. J. Pope.

Home Mutual Insurance Co.—Oct. 6th. Trustees: C. C. Perkins, C. S. Hobbs, A. S. Edwards, W. J. Lowry and J. W. Work; President, Geo. S. Mann; Secretary, W. H. Stevens.

Wm. J. Stoddart, the late superintendent and business manager of the Mechanics' Institute Fair, has been appointed Assistant Librarian of the Institute, and will hereafter be in attendance at the Library on Post street.

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board.

San Francisco, October 10, 1868.

Financial.

We are indebted to the *Commercial Herald* of this city for the following interesting statistics, being part of an elaborate review of financial and commercial matters pertaining to this port, published in its columns on the 6th of October:

TREASURE PRODUCT, IMPORTS, ETC.

The receipts of Treasure from all sources, through regular public channels, during the past nine months, as compared with the same period in 1867, have been as follows:

	1867.	1868.
From California, Northern Mines	$18,673,774	$18,362,236
From California, Southern Mines	3,288,383	3,456,720
From Nevada	13,500,000	12,000,000
From Coastwise Ports, Oregon, etc	4,242,036	3,338,426
Imports, Foreign, British Columbia, etc	2,880,450	2,138,861
Totals	$42,584,593	$39,436,243

The decrease in the above treasure receipts from our mines and coastwise and foreign receipts, for the first nine months of 1868, is $3,088,350 less than for the same period of last year; but it must also be borne in mind that our shipments have been $3,000,000 less, showing that we are actual gainers to the amount of half a million. However, a very large percentage comes to this city in private hands, and does not enter into this account. Our receipts from Nevada show a decreased yield of about $1,500,000, owing to the fact that the Comstock lode has not been so prolific of bullion during the current year. Large amounts of bullion credited to Nevada are really received from Idaho and other outlying mineral regions.

MOVEMENT OF COIN IN THE INTERIOR.

The following has been the circulation of coin through Wells, Fargo & Co.'s Express for the past nine months, and Pacific Union Express Company for the past three months, combined:

	To Interior.	From Interior.
January	$916,058	$890,913
February	677,989	666,061
March	695,541	330,815
April	977,181	804,096
May	937,187	457,287
June	1,031,644	541,892
July	1,296,750	736,980
August	1,778,605	449,899
September	1,578,648	626,062
	$9,890,423	$5,114,155
Same time in 1867	7,807,476	3,704,964
Increase in 1868	$2,082,947	$1,409,191

Showing an excess of remittances to the interior, as against receipts first nine months of the present year, of $1,776,268; same time 1867, $4,102,512.

MINT STATISTICS.

The total coinage for the first nine months of this year compares with that for the like periods in 1866 and 1867 as follows:

	1866.	1867.	1868.
January	$ 315,000	$ 124,000	$ 97,000
February	819,500	1,022,000	646,000
March	1,309,000	978,535	575,000
April	1,113,000	1,835,000	710,000
May	2,165,000	2,505,000	714,000
June	1,120,000	1,420,000	922,000
July	1,004,000	1,152,000	2,355,000
August	1,747,000	2,380,000	1,465,000
September	1,916,000	1,889,000	2,155,000
Totals	$11,659,500	$13,465,535	$9,933,000

The decrease in coinage since last year is attributable to the diminished demand, rather than to any deficiency in bullion. The greater portion of our treasure shipments are now made in gold coin, instead of coin, a decided preference for this kind of treasure has lately been evinced by our Chinese merchants, for some reason best known to themselves. Their demand for Mexican dollars seems to have been partially displaced by their recent preference for gold bars and gold dust. The principal shipper of coin has been the Sub Treasury, who has sent to New York, since January 1st, 1868, the moderate little sum of $7,500,000; being $2,000,000 more than was shipped by that officer in all of 1867. It will be seen that more money was coined at the Branch Mint in September than in any other month of the current year by the sum of $100,000. It must also be borne in mind that our large grain bill is for last year and the year previous have taken the place of coin in the European and Atlantic American markets, cutting down the home demand, and circumscribing it to a great extent within the limits of our local requirements.

REAL ESTATE.

In our review of July 22d, the following paragraph appeared: "There is now scarcely a lingering doubt but that the Pacific Railroad will be completed by the middle of next year, and then the prices of real estate in this city will receive an impetus which may go beyond rational bounds. The change will be made so imperceptibly that we scarcely be doubted, and as the desire to possess this kind of property is indisputably the ruling passion with San Franciscans, they should exercise the greater caution during periods of unusual excitement." Since then prices have risen with wonderful rapidity, and the number of sales have proportionately increased, with a prospect of further rise. Business property is especially in demand. The sales for September exceed in value those for any other month of the current year, except March, when they amounted to only $20,548 more. The following table will give the transactions for each month at a glance:

Month.	Sales.	Amount.
January	433	$1,713,997
February	614	2,669,875
March	731	2,825,943
April	693	2,365,267
May	522	2,107,283
June	484	2,148,071
July	506	2,265,567
August	603	2,383,371
September	632	2,805,398
Total	5,218	$21,484,769
First nine months of 1867	4,236	13,072,050
Increase in 1868	982	$8,412,719

The subjoined table states the number and amounts of mortgages and releases in each month for the first nine months of 1868:

Month.	MORTGAGES.		RELEASES.	
	No.	Amount.	No.	Amount.
January	265	$814,288	163	$419,853
February	232	892,813	188	607,320
March	283	804,962	196	498,494
April	287	1,032,978	174	539,463
May	269	986,570	198	594,902
June	277	1,013,515	176	434,849
July	233	1,373,950	178	486,158
August	249	834,198	289	517,330
September	275	1,125,385	161	372,375
Totals	2,441	$8,987,888	1,723	$4,500,584
In 1867	1,884	7,272,409	1,182	3,986,935
Increase, 1868	457	$1,715,479	546	$501,649

An increase of 982 sales, with eight and a half millions, and of 457 mortgages valued at nearly two millions, with a corresponding increase of 546 releases to the extent of over half a million of dollars in the first nine months of this year over the same period of last year, furnishes one of the best evidences of our material progress and the growth of this city. The foregoing statistics have been gathered from time to time from Carter's *San Francisco Real Estate Circular*, which is undoubted authority in all matters pertaining to real estate.

City Stocks.

Few public sales of miscellaneous stocks were made during the past week. Gas stock sold at $77 50; Omnibus Railroad at $70; Spring Valley Water at $65 50. The latter company will disburse their usual monthly dividend on the 12th instant. The quarterly meeting of the Pacific Insurance Company was held on the 6th instant. The report to the Board showed a surplus of nearly $500,000 over their capital stock. It required $262,872 to reinsure outstanding risks, leaving a net surplus of $221,924. They pay a dividend of one per cent. per month, or $3 per share, for the quarter ending September 30th. The Union, Merchants' Mutual Marine, and Occidental Insurance Companies declared dividends of one per cent. per month for the quarter just closed. At the annual meeting of the Home Mutual Insurance Co., George S. Mann was re-elected President, and W. H. Stevens was re-elected Secretary. At the close North Beach and Mission R. R sold at $70.

The stockholders of the Bank of California, at their annual meeting on the 6th instant, re-elected the old Board of Trustees, as follows: D. O. Mills, W. C. Ralston, W. E. Barron, Nicolas Luning, D. J. Tallant, Alvinza Hayward, Louis McLane, John O. Earl, L. Sachs, and A. J. Pope.

Mining Share Market.

The mining share market has been characterized by a fair degree of activity, and nearly all stocks were well maintained. The sales of several stocks were quite large, at a very considerable advance, and as a general thing the market seems to have acquired more tone. Several new descriptions of stock have made their appearance on the market, and the transactions during the past week embrace a larger number of stocks than for some time past. Both the Savage and Yellow Jacket claims have improved in their yield of ore, and as we before remarked, our faith in still more extensive discoveries in the lower levels of the various claims remains unchanged; however, so far as regards the above mentioned claims, we think the recent sharp rise is principally attributable to "cornering" operations.

IMPERIAL—sold within a range of $109@116, then at $113, and closed at $112. The receipts of bullion in September amounted to $64,531 53, against $55,627 68 in August. On the 7th instant the shaft was 98 feet in depth below the 900 level, with no change in rock. The face of the main drift is now in quartz and porphyry, and it is proposed to run this drift until they lose the quartz or find the west country rock. They are again extracting ore from the 600 level of the Alta mine, and from the 400, 230 and 150 levels they are extracting the usual amount of ore, together making about 150 tons per day.

CROWN POINT—has been less active than last week, selling at $50 50@43, and then at $45 50, and closed at $44. The expenses for the month of September were about $57,000, and the receipts $50,675. Work is carried forward with vigor on the 900 level, without any favorable developments; otherwise, no change in the mine.

HALE & NORCROSS—sold at $49@51, and closed at $48 50. On the 30th ult., the shaft had been timbered 84 feet below the third station. Work has been suspended for a few days, in order to repair machinery. The fourth station of this mine will be 130 feet below the third, making a total depth of 930 feet, and will correspond with the seventh level of the Savage mine, at a depth of 952 feet.

KENTUCK—declined from $293 to $265, and closed at $272. The receipts, so far, for September account aggregate $116,866. A dividend of $20 per share is payable on and after to day.....CONFIDENCE was in the market at $27 50@25. The bullion returns for September foot up $21,280, being the product of 1,152 tons of ore, equal to $18 47 per ton.....GOLD HILL QUARTZ sold at $50. Bullion yield for September, $10,318—product of 504 tons of ore, equal to $20 47 per ton.....EMPIRE sold during the week at $105@100. The bullion returns for the month of September aggregate $18,836 82.

GOULD & CURRY—declined from $106 to $100, and at the close realized $104. During the week ending on the 4th inst., the Bonner shaft had been sunk 9½ feet, the material extracted being principally tough, black clay. Considerable ore has lately been taken from the tunnel croppings.....OPHIR declined from $22 to $18 50, and at close $19 is bid. The new shaft is 472 feet in depth, and they are now down on a level with the bottom of the old mine. The water is at present decreasing, and the rock is easier to extract.

CHOLLAR-POTOSI—opened at $160@162, declined to $153, then sold at $152 50, and closed at $152. During the week ending October 2d, they extracted 1,020 tons of ore. The stopes are said to look as promising as they did a week ago. The north drift is 364 feet from the incline, and the incline is 98 feet below the 1,100 station. The receipts for September foot up $78,013.....OVERMAN rose from $85 50 to $100, declined to $35, and closed at $87. The receipts, so far, for September account aggregate $31,000. The drift east on the 361 level shows good ore, and the one south on the 400 level progresses steadily. On the 500 level raise, the western cross-cut looks more encouraging than the eastern one.

ALPHA—advanced from $51 to $56, and closed at $54. The 940 station is reported to look well, and will soon be opened more extensively. The 250 level does not look well.....SAVAGE declined from $121 to $110 50, then sold at $120, and closed at $114 50. For reasons before stated, we are minus a detailed statement as regards the present condition of this mine. A dividend of $5 per share is payable on and after to-day.....SEGREGATED BELCHER sold at $11 25@9 50 per share. At the annual meeting of this company, the following gentlemen were elected Trustees: A. K. P. Harmon, John Sime, J. E. de la Montagnie, O. Dickinson, Jr., and Geo. Congdon.....YELLOW JACKET jumped from $1,400 to $1,600, declined to $1,480, rose to $1,645, and closed at $1,560. The prospects are reported to be very fair below the 800 level.

INSTRUCTION AT THE MECHANICS' INSTITUTE.—Classes are being formed at the Mechanics' Institute for instruction in various useful branches, as may be suggested or demanded by numbers of persons desiring to avail themselves of the same. Mechanical and free hand drawing will be taught by one of the instructors of the Pacific Business College.

NOTICE.—Mr. George Benson or Frank F. Doland, of Sacramento, will please send their address to this office, so that their business with us can be properly and promptly attended to.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE.
Alameda Coal, Sept. 17, 50c	Oct. 27	Nov. 16
Amador Co., dividend, $5 per share	Payable Sept. 19, 1868	
Bunker Hill, Amador co., May 19, $10	Oct. 6	Oct. 26*
Bullion, Aug. 19, $10	Payable immediately	
Bacon, Storey co., Nov., div	Payable June 19, 1868	
Chollar-Potosi, div., $25	Payable Oct. 15, 1867	
Chihuahua, Mexico, Sept. 7, $5	Oct. 9	Oct. 26*
Chalk, M. G., Nevada co., Aug. 17, $1	Sept. 23	Oct. 12*
Crown Point, dividend, $7 50	Payable Sept. 12, 1868	
Cherokee Flat, Butte Co., Sept. 2, $5	Oct. 5	Oct. 19
Dancy, Storey co., Nev	Special Meeting, Oct 19	
Diamond, Del Norte co., Feb. 4, $2	Oct. 7	Oct. 26*
Enterprise, Meadow Lake, Aug. 28, $1	Sept. 30	Oct. 17
Folsom St. & Ft. Pt. R. R., Sept. 11, $5	Oct. 13	Oct. 28
Empire M. & M., Nev., dividend $6	Payable May 15, 1867	
Eureka, div. $7 50	Payable Aug., 1868	
Gould & Curry, div., $7 50	Payable May 15, 1867	
Gold Hill Q. M. & M.—dividend, $7 50	Payable July 15, 1868	
Golden Rule, Tuolumne co., div 50c ₱ sh.	Payable Aug. 23*	
Hope Gravel, Nevada co., Oct. 5, $1	Nov. 10	Nov. 30*
Hale & Norcross, div. $125	Sept. 16, 1867	
Imperial, Storey co., Nev., div	Payable June 20, 1868	
Julia, Storey co., Aug. 24, $1.50	Sept. 28	Oct. 17
Kentuck, div., $10 per share	Payable Oct 10, 1868	
Kearsarge, Inyo co., Sept. 18, $1	Oct. 22	Nov. 10*
Morning Star, Alpine co., Sept. 25, $1.50	Nov. 2	Nov. 23
Maxwell	Meeting Oct. 22	
Mary Star, dividend, $5	Payable Aug. 15, 1868	
N. A. Wood Preserving Co., Sept. 3, 50c	Oct. 5	Oct 27*
Oxford Beta	Sale Oct. 12	
Providence, Nevada co., Sept. 11, $2	Oct. 17	Nov. 5*
Pacific Unassessable, div.	Payable June 13, 1868	
Pacific Coal, Sept. 19, $12,50	Oct. 29	Nov. 18
Rising Star, Idaho, Sept. 11, $7 50	Oct. 24	Nov. 25
Savage, Virginia, Nev., dividend, $5	Payable Oct. 10, 1868	
Sierra Nev., Storey co., Nev., Sept. 25, $10	Oct. 27	Nov. 14
Segregated Belcher	Annual Meeting, Oct. 6	
Sawyer Spratt, Inyo co., Aug. 4, $30	Sept. 4	Oct 21*
Santiago, Silver City, dividend	Payable Sept. 10, 1868	
Sand Spring Salt, dividend $1	Payable June 5, 1868	
Tallulah	Annual Meeting Oct. 20	
U. S. Grant	Annual Meeting, Oct. 14	
Virginia & G. H. Water Co	Dividend, payable May 15	
Washington, Nevada County	Annual Meeting, Nov. 3*	
Yellow Jacket, div., $75	Payable July 10, 1867	

Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD.

FRIDAY EVENING, Oct. 9, 1868

MISCELLANEOUS STOCKS.	Bid.	Asked.
United States Bonds, 5 20s	$ 78	78½
Legal Tender Notes	71¾	71¾
California State Bonds, 7s, 1857	95	95
San Francisco Bonds, 10s, 1851	par & int.	
San Francisco City Bonds, 6s, 1855	—	—
San Francisco School Bonds, 10s, 1860	100	—
San Francisco School Bonds, 10s, 1861	par & int.	
San Francisco City and Co. Bonds, 7s, 1862	89	90
San Francisco City and Co. Sch'l Bds, 7s, 1866	90	—
San Francisco City and Co. Bonds, 7s, 1862	90	91
San Francisco City and Co. Bonds, 7s, 1864	90	—
San Francisco City and Co. Bonds, 7s, 1865	90	—
San Francisco City and Co. Judg. Bds, 7s, 1863	90	—
San Francisco City and Co. Judg. Bds, 7s, 1864	90	—
Sacramento City Bonds	23	25
Sacramento County Bonds, 6s	70	73
Marysville Bonds, 10s	75	80
Stockton City Bonds	60	70
Yuba County Bonds, 8s	77	78
Santa Clara County Bonds, 7s	75	77
Sutte County Bonds, 10s, 1859	10	75
San Mateo County Bonds, 7s	75	80
California Steam Navigation Co	68	70
Spring Valley Water Co	66	66½
State Telegraph Co	25	29
GAS COMPANIES.		
San Francisco Gas Co	77	78
Sacramento Gas Co	—	75
RAILROADS.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	70	—
Central Railroad	55	58
North Beach and Mission Railroad	69	72
Front Street, Mission and Ocean Railroad	11	12
BANKING INSTITUTIONS.		
California, Loan and Savings Society	—	—
Pacific Bank	97½	100
The Bank of California	157	158
INSURANCE COMPANIES.		
Firemans' Fund Insurance Co	92½	94
Pacific Insurance Co	122½	125
San Francisco Insurance Co	—	105
Merchants' Mutual Marine Insurance Co	507	525
California Insurance Co	1390	1400
Union Insurance Co	92	93
California Home Insurance Co	49	—
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	42	—
National Insurance Co	72	—
Builders' Insurance Co	—	—
MINING STOCKS—WASHOE DISTRICT.		
Alpha	54	55
Baltimore American	—	—
Belcher	150	155
Bullion, G. H	16	17
Crown Point	43	44
Confidence	20	25
Chollar-Potosi	151	152
Caney	6	7
Exchequer	12	13
Empire Mill and Mining Co	100	102
Gould & Curry	102	104
Gold Hill Quartz	40	69
Hale & Norcross	49½	49
Imperial	112	113
Kentuck	270	272
Lady Bryan	13	15
Ophir	19	20
Overman	87	87½
Savage	114½	115
Sierra Nevada	70	73½
Yellow Jacket	1502	1581
Golden Rule, California	7¾	10

San Francisco Market Rates.

Wholesale Prices.

FRIDAY, Oct. 9, 1868.

Flour, Extra, ₱ bbl	$5 75	@$6 25
Do. Superfine	5 00	@ 5 50
Corn Meal, ₱ 100 lbs	3 25	@ 3 50
Wheat, ₱ 100 lbs	1 65	@ 1 90
Oats, ₱ 100 lbs	1 75	@ 2 25
Barley, ₱ 100 lbs	2 00	@ 2 25
Beans, ₱ 100 lbs	3 00	@ 4 00
Potatoes, ₱ 100 lbs	1 00	@ 1 25
Hay, ₱ ton	10 00	@16 00
Live Oak Wood, ₱ cord	9 00	@10 00
Beef, extra, dressed, ₱ lb	8	@ 10
Sheep, on foot, ₱ head	3 00	@ 3 25
Hogs, on foot, ₱ lb	5	@ 6
Hogs, dressed, ₱ lb	8	@ 9

GROCERIES, ETC.

Sugar, crushed, ₱ lb	14¾	@ 15
Do. China	10	@ 11¼
Coffee, Costa Rica, ₱ lb	16	@ 16½
Do. Rio	—	@ 17
Tea, Japan, ₱ lb	75	@ 90
Do. Green	60	@ 1 25
Hawaiian Rice, ₱ lb	—	@ 8
China Rice, ₱ lb	6	@ 6½
Coal Oil, ₱ gallon	35	@ 40
Candles, ₱ lb	15	@ 17
Ranch Butter, ₱ lb	50	@ 60
Isthmus Butter, ₱ lb	30	@ 37½
Cheese, California, ₱ lb	15	@ 18
Eggs, ₱ dozen	60	@ 62
Lard, ₱ lb	13	@ 14
Ham and Bacon, ₱ lb	14	@ 18
Shoulders, ₱ lb	6	@ 8

Retail Prices.

Butter, California, fresh, ₱ lb	60	@ 75
do. pickled, ₱ lb	30	@ 40
do. Oregon, ₱ lb	15	@ 25
do. New York, ₱ lb	35	@ 40
Cheese, ₱ lb	20	@ 25
Honey, ₱ lb	25	@ 30
Eggs, ₱ dozen	—	@ 75
Lard, ₱ lb	15	@ 17
Hams and Bacon, ₱ lb	23	@ 25
Cranberries, ₱ gallon	85	@ 1 00
Potatoes, ₱ lb	2	@ 3
Potatoes, Sweet, ₱ lb	3	@ 5
Tomatoes, ₱ lb	3	@ 5
Onions, ₱ lb	3	@ 5
Apples, No. 1, ₱ lb	4	@ 5
Pears, Table, ₱ lb	5	@ 7
Pears, Dried, ₱ lb	11	@ 13
Peaches, dried, ₱ lb	—	@ —
Oranges, ₱ dozen	75	@ 1 00
Lemons, ₱ dozen	1 00	@ 1 50
Chickens, apiece	50	@ 75
Turkeys, ₱ lb	20	@ 25
Soap, Pale and C. G.	7	@ 12
Soap, Castile, ₱ lb	15½	@ 16

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

FRIDAY, Oct 9, 1868.

IRON.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar 1@1¼c ₱ lb: Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1¾c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2¾ ₱ lb.

Scotch and English Pig Iron ₱ ton	$33 00	@$34 00
White Pig ₱ ton	33 00	@ 34 00
Refined Bar, bad assortment ₱ lb	— 03	@ — —
Refined Bar, good assortment, ₱ lb	— 04	@ — —
Boiler, No. 1 to 4	— 04¾	@ — —
Plate, No. 5 to 9	— —	@ — 05¾
Sheet, No. 10 to 13	— 04½	@ — —
Sheet, No. 14 to 20	— 05	@ — 5¾
Sheet, No. 24 to 27	— 05	@ — 1¾
COPPER.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb		
Sheathing, ₱ lb	— 23	@ — 26
Sheathing, Yellow	— —	@ — 24
Sheathing, Old Yellow	— 11	@ — —
Bolts	— 21	@ — 22
Composition Nails	— 21	@ — 22
TIN PLATES.—Duty: 25 ₱ cent. ad valorem.		
Plates, Charcoal, IX, ₱ box	12 50	@ — —
Plates, I C Charcoal	10 50	@ 11 00
Roofing Plates	10 00	@ 10 50
Banca Tin, Slabs, ₱ lb	— —	@ — 30
STEEL.—English Cast Steel, ₱ lb	— —	@ — 15
QUICKSILVER.—₱ lb	— 55	@ — 60
LEAD.—Pig, ₱ lb	— 7½	@ — 8
Sheet	— 10	@ — —
Pipe	— 11	@ — —
Bar	— 9	@ — 9¼
ZINC.—Sheets, ₱ lb	— —	@ — 9½
SOLDER.—California, ₱ lb	— 20	@ — 23

NEWS FROM THE ARCTIC REGIONS.—Dr. Goold, recently arrived from the Baffins Bay country, reports additional discoveries by Hall's expedition, of facts and relics concerning the fate of Franklin; and says that last winter, which was so unusually severe in the lower latitudes, was the mildest ever kuown in the Arctic regions, the temperature at no time falling lower than 40 degrees below zero.

From the German North Polo expedition, the latest news is that on the 19th of July, the Germania had reached 80 deg. 30 min. north latitude, and that the expedition had proceeded with its exploration 100 miles northeast of Bear Island, where they arrived on July 5th; while the Swedish expedition reached there only on the 22d of the same month, and remained until the 27th. The Germania having taken in fresh water proceeded thence in a northerly direction. A Stockholm dispatch of September 5th, says: "News received from Spitzbergen, dated the 3d of August, states that the Swedish North Pole expedition had proceeded northwards beyond the 80th degree, and found the passage open and free from ice."

A PUBLIC TEST is promised soon of Mr. Potter's three-flanged cannon ball, whereby the rifling of the bore of firearms is claimed to be superseded.

NOTICE.—If Mr. Thos. Mann, who applied for a patent on a "Brick Hoisting Machine," will call at this office, he will learn something to his advantage.

THE late showers and delightful sunshine of the last few days have given a freshness and beauty to the grass and shrubbery at Woodward's Gardens, that render the grounds just at this time exceeding y attractive. Concert to-morrow as usual. *

IF spectacles are used before they are required, or if their use is postponed when needed, the eye is injured. Consult C. Muller, Spectacle Emporium, 205 Montgomery street, before purchasing. *

STATE FAIR PREMIUM FOR CONCENTRATOR. J. Hendy, of this city, received the first premium at the late State Fair in Sacramento, for the best concentrator on exhibition.

Mining Summary.

THE following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County.

Markleeville *Miner*, Sept. 26th: The rock in the Mt. Bullion tunnel is said to be very hard, only nine feet having been made by six men last week.

The Imperial tunnel is progressing.

Mr. Davidson of the Silver Creek mill has been obliged to throw up the contract he had with I.X.L. Co. for 100 tons of first class ore at $100 per ton, because of the inability of the company to supply the ore except in quantity so small that it would not pay to start the mill on it. It is said they have considerable ore out, which it is thought will pay to work at the Pittsburg mill. It is said they have struck a pay streak this week of greater promise than any for sometime. The ledge seems to get better as they go up on it.

Active steps are being taken to have the ore from the Rippon ledge, just cut out, worked as soon as practicable. It is said that the ledge here laid bare is creating some speculation in the minds of stockholders in the Mountain Co.; some contending that it is the Mountain lode, while others say it cannot be, for, from its strike and course the Mountain tunnel would not reach it under 2,000 to 2,500 feet, whereas, 1,200 to 1,500 feet would suffice to cut the Mountain lode.

The Knox Co. commenced work on their claim last Monday, under the management of Wm. Kent. This claim belongs to a San Francisco Company.

Amador County.

Dispatch, Oct. 3d: Trowbridge & Co. have erected a whim at the shaft on their claim, which is on the north extension of the Coney lead, and are prosecuting the work with vigor. The shaft is down 125 feet, but as the lead has not yet been tapped at that depth, its width and richness is not known. It was tapped about 80 feet from the surface, where it was found to be 12 feet wide, with every prospect of increasing in width and richness as they go down.

Kern County.

Havilah *Courier*, Sept. 29th: Some time ago we published a notice of the discovery of the Esperanza mine, located about five miles to the southwest of the celebrated St. John mine, in the north end of Kelsoe Valley. The location embraces 1,000 feet, owned by Carter, Sterns, Birdseye, Low, and Moreno—and from Mr. Sanderson—just in from that locality, we learn the following concerning it: The ledge has been opened on the surface for a distance of 800 ft., disclosing a vein of the average width of 26 inches; and a tunnel run in on the ledge between 100 and 200 feet, from which they are now extracting ore at a depth of 150 feet from the surface. The width of the vein in the tunnel averages fully as large as on the surface, and of quality equally good. Forty-two tons of the rock, taken partly from the tunnel, and partly from the surface workings without selection, and specially with a view to test the value per ton of the whole ledge, was worked recently at the Gold Hill quartz mill, and yielded $800, or a fraction over $19 per ton. This in view of the facilities for working quartz in the immediate vicinity of the mine, is eminently satisfactory to the owners, and proves beyond a doubt that the Esperanza will be a permanent and paying mine. The rock in the ledge is soft and easily worked, and the gold free and readily extracted. They have now about 60 tons of ore on the dump, and with the facilities for deep tunneling they possess, can hereafter obtain any amount of rock they may desire. We learn it is in contemplation to erect a mill shortly on the ledge....Several other ledges have been discovered in the vicinity, some of which prospect extremely well....In Ticknor's Basin, Mount Sinai district, Monckton & Sprague are opening the Grant mine. They have two shafts down, respectively 100 and 70 feet deep. The ledge is between eight and nine feet wide, and good judges estimate that it will pay upwards of $15 per ton.

Mariposa County.

Mail, Oct. 2d: From all parts of the county comes cheering news of new developments in our mines. At the Ellis mine, on Sherlock's, worked by the Linn Bros., we hear that they have a tunnel in 600 feet, and the rock is increasing in richness; a large portion of it is rotten quartz and dirt, which is being piled up preparatory to being worked in sluices the coming winter. The hard rock will be worked with arastras. This mine has been a paying institution the last ten years, and bids fair to be more remunerative than ever. The Eureka mine, better known as the Snyder vein, is located on the divide east of Hite's Cove. Work has been resumed, and a shaft is down 75 feet. The vein at this depth is 3½ feet in width, and the ore increasing in richness. The Brooks vein, lying north of the Elkhorn, is turning out rich rock, and more hands have been added. The lumber for the mill on the Harbor vein, is all on the ground, and Wilcox is working night and day to get the machinery ready. A new mill is also going up near Bridgeport, on veins owned by J. H. Neal and others; Wilcox has also the contract for necessary machinery. And at Hite's Cove everything is in full blast, and a large number of men employed. Teams loaded with machinery for Nat Harbert's new mill, on the Fresno, passed through Mormon Bar Tuesday. Placer miners are getting in sluice lumber, and preparing for winter work, and should the season be favorable for dry diggings, we may anticipate larger returns from that source than have been obtained in the last three years.

Nevada County.

Transcript, Oct. 1st: The Erie Co. have located 1,000 feet on the first south extension of the Jim Crack ledge in Eureka township.

The Hixon & Bixby Co. have located 1,200 feet on a ledge 120 yards from the Norridgewock quartz mill, above Gold Flat. The ledge looks well.

The Grass Valley Consolidated Mining Co., an English incorporated company, has purchased of Wm. O'Connor Sidney, certain mining claims on Union Hill, Grass Valley, for £110,000. The sale includes the Bulger claims and Doran, Murphy & Co's claims on the McGrand ledge.

Oct. 3d: The Banner Mining Co. are going to add 10 more stamps to the mill, making 40 in all. A new and heavier engine is also to be put up.

Gazette, Sept. 29th: The quartz mill of Palmer & Everingham, near Graniteville, we are informed, will start up for regular work to-morrow. They have some 200 tons of rock at the mill ready for crushing.

Oct. 2d: The Banner mine is now yielding ore in such large quantities that notwithstanding the 30-stamp mill is kept running steadily, a vast amount has accumulated. The owners, therefore, have determined to add 10 more stamps to the mill, and also to put in a more powerful engine than that now used. The mill will then have 40 stamps, and be able to crush from 70 to 75 tons every 24 hours. The yield of the mine, during the year ending on the 1st of September last, was $235,000, and in that time the work was suspended nearly two months. The yield previous to the 1st of September, 1867, had been $176,000, making the total gold product of the mine, up to the 1st of last month, $406,000. The further the mine is explored the more favorable the prospects appear, and it is understood that the late developments of the size of the vein and quality of the ore, in the lower levels has been one of the inducements to the owners to enlarge their mill.

Grass Valley *National*, Sept. 30th: The Idaho mine, from 350 tons of rock, realized from their clean up of last Monday the sum of $14,400.

The Sebastopol mill, known as Ben. McAuley's mill, is running day and night, and is kept constantly employed. They were crushing rock to-day for La Marque, from New York Hill, which looks well and prospects excellently. A. B. Brady has some rock on hand from Chivanne's old mine which promises to yield well.

Oct. 1st: Seventeen loads of quartz from the Golden Gate ledge, situated about 1,000 feet east of the Eureka, were crushed recently at the Gold Hill mill and yielded at the rate of $22 per ton.

EXCELSIOR.—The Alpine *Miner* of Sept. 30th, says: A letter from the Secretary of the Enterprise Co., Excelsior, dated Sept. 9th, says: We are surprised this morning with the receipt of $1,648 of $20 gold bullion, from the 20 tons run through the Hagan superheated steam furnace. The same amount and apparently same quality of ore, previously run through by the best mill treatment we could give it in a raw state, only yielded about five ozs., at a loss of about 460 lbs. of quicksilver. The company has better ore than that just treated.

Transcript, Oct. 6th: The new 10-stamp mill of the Mohawk and Montreal Mining Co., Meadow Lake, started up for steady work on the 1st of October, and is crushing ore from the mine. The battery and plates look first rate, the amalgam being collected in heads upon them. The ledge in the lowest level is 4½ ft. wide and the ore of first rate quality.

Plumas County.

Quincy *Union*, Sept. 26th: The Penn. mill at Indian Valley, is not running at present. The owners have sold the engine to Judkins & Kellogg, of Cherokee, who will remove it to their ledge, to be used to run their hoisting machinery.

Several companies are at work mining on Spring Garden Creek, and are averaging good wages.

The Eureka Co. are now taking out some of the richest rock ever found in that section of the county. It is taken from the new ledge recently discovered by the caving in of the old mine.

The correspondent at East Branch writes: The Halstead Co. continue piping, and from the prospect they are getting, they will make the best clean up they have made for years.

Sheiser & Co. are cleaning up, and judging from the gold already taken out, they will make good wages for all work done.

Cole, Wright & Co. have discovered a rich deposit in the hill directly opposite Twelve-Mile Bar, and are making $5 per day to the hand, though working under disadvantages.

The Mathew Bros. are running a tunnel at the lower part of Twelve-Mile Bar, with a view to strike this new discovered channel. Other claims have been taken up, upon which work will be commenced immediately to find the same lead.

Mr. Ward has about completed his flume and will have everything connected with it running nicely this week. This is one of the most extensive operations of the kind ever undertaken in this vicinity. Judging from the prospects already got, and the huge gold found in close proximity, there is no doubt but it will pay immensely for working.

McBeth & McNealy, at the old Ball claim, are making ⅓ ounce per day to the man, though they have but little water.

Capt. Courser is preparing to work new ground. From the way it prospects he has a good thing.

Thompson, Mercer & Co. have suspended work on their river claim until next spring, in consequence of high water.

San Bernardino County.

Guardian, Sept; 26th: A rich ledge was struck recently about half-way between Graniteville and South Fork. It is large, well defined, and miners think the rock will yield from $35 to $40 per ton.

Sierra County.

Downieville *Messenger*, Oct. 3d: The Wolf Creek quartz mill was set in motion on the 15th ult., and has been pounding away at rich rock since. We have heard several speak of this mill, and they all say it is one of the finest little mills in the county, and runs like a top. The mine is believed to be an excellent one, although it is situated in the bottom of Wolf Creek and all the ore has to be raised through a shaft, the owner feels sanguine of having a good thing.

The Port Wine correspondent writes that the Monte Cristo Slope mine has been paying $10 per day for some time. The Indian Queen and Old Eagle claims are now paying wages. The Erie Co. have suspended work on account of a dispute among the shareholders.

Nevada *Transcript*, Oct. 2d: A correspondent writing from Tippecanoe, Sierra County, says that the mining prospects in that locality are excellent. In the claims of J Rowland and B. Henry, they have sufficient water to last nine months of the year. They are making preparations for extensive work this winter, and will work out a large extent of ground.

Siskiyou County.

Yreka *Union*, Oct. 3d: Rohl. Whittle informs us that a company of Oregonians, who had been out in the Goose Lake locating ranches, picked up on their return on the headwaters of Martin's river pieces of quartz containing gold.

The miners on the Klamath below Cottonwood are beginning to get into their claims. Shaft, Smith & Co. have got down and for three days work last week took out 28 ozs. The prospect in their claim for a large yield is excellent. The Ellis's, who sunk down right at the upper edge of Groat's ranch, have struck good pay and are taking out an ounce a day to the hand. There are several other claims in which they will get down shortly when it is believed they will receive large pay.

COLORADO.

Georgetown *Miner*, Sept. 17th: Gov. A. C. Patterson is developing a lode on the west face of Leavenworth Mountain, called the Conqueror, that is producing a high grade of sulphuret ore....Huepeden, Wolters & Co. have shipped since our last issue, 1,429.25 ounces of silver bullion, coin value, $1,609.03....Mr. Herriek is taking down the old smelting furnace at the Georgetown works, which had become thoroughly unfit for use. The hearth, some 36 inches in thickness, has lost its entire original character as brick, and is a mass of silver, lead riches, and sulphide and oxide of lead. Tests made from different portions and different characters of its material, gives from $500 to $1,000 in silver to the ton....W. H. Linn has made a new discovery on Democrat Mountain, which he has named the Amazoo. He is driving an adit on the vein, and has about 20 inches of gangue interspersed with zinc-blende, argentiferous galena, and sulphurets of silver....Prof. Fred. Schirmer has leased the Georgetown Smelting Works, and associated with him in their management, Prof. Wm. Bruckner. They are now erecting a reverheratory furnace, of an entirely different character from anything in the Territory. It has been worked with great success by Prof. Bruckner, in South America, on argentiferous galena and zinc-blende ores....Munson, Mason & Ball are working the Tenth Legion Lode, west of the Knickerbocker Co's property and adjoining it. Their shaft is 35 feet in depth, carrying three feet of pay quartz and 11 inches of solid iron sulphurets. The ore is being worked in the Knickerbocker stamp mill, paying $100 in gold to the cord. The ore is iron sulphurets, giving an average assay of $86 in gold to the ton.

Denver *News*, Sept. 23d: Williams, Cassiday & Kane are smelting the Henry Ward Beecher galena ore in the Scotch hearth, formerly used by Dr. Stowell. A lot of second-class Equator ore is being shipped to the California works below Black Hawk, for reduction. John T. Herriek shipped on Tuesday last 136 pounds of silver bullion, value $2,041.20. The dressing works at the Terrible lode are now finished, and in successful operation.

A letter from Summit County gives the following: In Gold Run there are four companies at work. L. Peabody is taking out an average of $7.50 per day to the man. Moffat & Co. have one hydraulic, and a flume 700 ft. long. The mine was worked for 12 weeks. The total amount taken out was $3,310.92—an average of $275.91 per week, or $13.13 per day to the man. Shock & Bro. are working six men, and taking out from $15 to $20 per day to the man. The Walker claim is paying $8 per day to the man. On Buffalo Flats, Geo. W. Mumford employs 8 men, who are taking out from $10 to $11 per day each. John Nolan is working 4 men, and his claim is paying $8 per day to the man. In Delaware Gulch, Geo. Mann is working 3 men, and is taking out about $12 per day to the man. Mr. D. R. Stogsdill is working 3 men, and is taking out $8 per day to the man.

IDAHO.

Owyhee *Avalanche*, Sept. 26th: Day before yesterday Cope & Co. struck fabulously rich gold-bearing quartz in the Potosi. The lode was found cropping out on the surface 300 or 400 feet south of the tunnel. Large crowds flocked to see the new discovery. All who have seen it unhesitatingly declare that it is the richest deposit of gold ore ever found in this or any other mining camp. We saw a piece weighing about 50 pounds, which, after being broken into fragments, was held together by threads of solid gold that penetrate the mass in every direction.

On Thursday last another quartz lode was discovered on the mountain west of the Baxter and between the Silver Cord and Savage. It is called the Appuremack, and prospects rich in gold and silver.

The frame of the Rising Star mill, at Flint, is up and nearly enclosed. The ore in the Rising Star gets richer the deeper the mine is prospected. A deposit of remarkably rich ore was struck this week.

Mr. Perry is still at work sinking on the Forest. The shaft is now down 140 feet, where the lode is about 12 feet between the casings. There is a granite horse in the center and rich pay quartz on each side. The granite becomes less and the pay streaks wider the deeper it is worked.

Lewiston *Journal*, Sept. 12th: We are informed that the Hawk Eye lode now being worked at Warren's Camp, is paying $100 to the ton.

Gold has been found on Clearwater River in paying quantities. Miners have already commenced work with rockers, and are making from $4 to $5 per day. The distance from Lewiston to the mines is but seven miles.

A very rich gulch has been struck at Elk City by some new comers; the gulch prospects from 10 to 50 cents to the pan.

The Pierce City correspondent writes thus concerning the new mines recently found in the Bald Mountain district: Out of 500 buckets (or pans) of dirt we got $27.25. The ground is nearly all taken up. It will take $3,000 or $4,000 to bring water into the gulch. The creek or gulch is called Gold Creek.

The Portland *Oregonian*, of Sept. 26th,

learns the following from Yuba district: The mill of the Greenhack Co. is engaged in crushing ore from the Atlantic ledge, which is yielding considerable bullion. The English Co. has fine mills, which they propose to set up on some rich ledge, and they are now making a critical examination of the Lucy Phillips, which will be purchased by them if results are satisfactory. The Monauk Co. have purchased, recently, 1,000 feet of the Atlanta lode, and are engaged in erecting a mill and taking out ore. They paid $225,000 for 1,000 feet of the richest portion of the Atlanta. The Minerva ledge has a reputation for richness—has no superior in the Yuba district. A tunnel has been driven into the mountain, which strikes the lead at a point 150 feet below the surface, where the ore is immensely rich, containing both gold and silver, with but very little baser metal.

MONTANA.

Helena *Post*, Sept. 25th: S. F. Molitor & Co., yesterday, cast the smallest "brick" on record in the Territory. It weighed half an ounce.

The Graadville 10-stamp mill, at Georgetown, Deer Lodge County, is nearly completed, and will commence running next week on rock from the Minnesota ledge. This ledge has been developed by three shafts, 30, 40 and 80 ft. in depth respectively, and by cuts run across the ledge. The width of the lode varies from 22 to 27 ft., and there already seems to be quartz enough in sight to run upon a year without stopping. The great value of the rock does not consist in any extreme richness, but in the very even manner in which the gold is distributed. It is expected that the ore will yield $15 to the ton for the full width of the ledge.

A correspondent at Nelson's Gulch writes: The Nelson mines are far from worked out. The bed-rock flume in the lower portion of the gulch, owned by Messrs. Pierce & Spiers, is yielding well. Taylor & Co's claim, just above, is paying half an ounce per day to the man. A few claims further up the ground of Norton & Co. are yielding from $7 to $9 per day to the hand. Still further up the gulch, Mr. John Miry is taking out from $5 to $9 per day to the man. A few claims above this last, Messrs. Hardibrook & Co. are constructing a drain ditch, by means of which they expect to be able to work some very rich ground. Next above the drain ditch is the bed-rock flume of the Swedish Co., by means of which is worked some of the richest ground in the Territory. As high as $12 to the pan of dirt has been obtained, and from $3 to $5 prospects are frequently secured. On Thursday last $10 in gold was obtained from one shovelfull of dirt. Although a scarcity of water prevents this company from washing the dirt from more than one set of timbers per day, it is still enabled to clean up from $90 to $135 daily, or an average of about $25 per day to the hand. The quality of the gold obtained is not excelled for fineness by any in the Territory. A short distance above this flume, and opposite discovery claim, a tunnel is being run into a bar which is expected to afford facilities for working some of the richest ground in Montana. The earth excavated in the prosecution of the work pays wages, or $4.50 per day. Above this point nearly every claim is worked with good results.

The Deer Lodge *Independent* says: The Clearwater mines pay only $3 per day to the man, and most of the stampeders have gone to Oregon. . .Wallace's Bar, in Deer Lodge County, has a pay streak 300 feet in width, and has been thoroughly prospected for 2,000 feet in length. One company has averaged $21 per day to the man, another company $15 per day to the man since the time the bar was discovered. It is thought that other claims will pay $50 per day to the hand....A prospecting party of 20 persons was to leave Missouri a week ago for the head of Milk River....During the past season, most of the claims at Rocker City have paid from $8 to $16 per day to the hand....The quartz of the Rumley & Bugher silver lode yields $50 per ton. The St. Louis and Montana Co. have leased this lode until May, 1869, and will pay the owners half the net product of the ore in payment for the use of the mine....The Hanauer mill has taken a large contract to crush quartz from the North Atlantic lode at $11 per ton....The quartz taken from the discovery claim of the Only Chance lode, at Highland, yielded an average of $150 per ton in an arastra since work was commenced upon it. It is to have a mill erected in the spring.

A correspondent writing from French Gulch says: Gold Hill is paying from $15 to $75 per day to the hand. Shenauigan Gulch is paying from $15 to $18 per day to the man. About 200 men are at work at the French Gulch diggings, and are making good wages.

The Virginia *Democrat* says: The bed-rock flume of Poole and Orr yielded 4,300 as the result of a two weeks' run recently.

NEVADA.

Winnemucca *Argent*, Oct. 1st: Mr. Kelly informs us that the new tunnel in the Golconda mine, now in 75 feet, south of the old shaft, has developed a four-foot vein rich in mineral.

Holt's mill is progressing, and will be finished sometime this fall.

The Union correspondent writes: Mining matters remain about as when I last wrote. The Pioneer Co. struck the Aga memnon ledge ten days ago. The vein is said to be a wide one and well charged with good mineral. Expect to go up to see it next week, and will then report. The Inskip boys report favorable developments. The Arizona wags along as usual. Plenty of good ore to keep both mills running day and night.

Reese River.

Austin *Reveille*, Sept. 26th: White Pine is rich, but Lander Hill appears occasionally with a rich streak. A ton of ore extracted from the Saratoga mine in Lander Hill, which has been just reduced at the Manhattaa mill, gave a pulp assay of $1,497.

During the week ending this date, there were produced at the Manhattan mill, 34,684 ounces of bullion.

Sept. 28th: The Centenary mill, in the district of Newark, is one of the productive works of this part of the State. Mr. Folsom shipped on Saturday last 26 bars of bullion, valued at $32,413; this swells the amount shipped by him to that firm during the present month to $84,409.90. The larger part of this bullion was produced from ore obtained from the Eberhart South in the district of White Pine; the remainder was produced by the Chihuahua mine of the Centenary Co. This mine presents an unusually fine appearance, and is supplying five stamps of the mill with ore.

The editor has seen some coarse powder resulting from two ounces of the ore produced by the Red Mountain mines, which was pulverized in a mortar. There was perhaps half a teaspoonful, one-third of which was fine gold. The estimated yield of this quality of ore in the mill is $250 to $300 per ton. Choice specimens of ore showed little bunches of free gold, and in some instances quite large pieces of gold.

The South American mine in Lander Hill, is one of the valuable mines of the district. Fifty-seven tons of the first class ore, which were reduced at the Manhattan mill, yielded an average of $302 per ton.

Sept. 30th: We saw to-day at the assay office of Boalt & Stetefeldt, the pulp of 13 lots of ore, which presented the liveliest display of colors and tints. There were five shades of drab, two of reddish brown, besides various other tints.

Oct. 2d: The Manhattan Co. shipped during the month of September just passed, bullion to the amount of $130,776.91.

Mountain *Champion*, Sept. 26th: On the dividing line between the El Dorado South mine and the El Dorado North, a shaft is being sunk for the purpose of prospecting both claims. It is about 80 feet deep, and discloses a fine body of ore from the surface downward. The pay streak is from two to three feet wide, of rich chloride ore. Eighty feet south of the boundary line, Leon & Co. have sunk an incline to the depth of 130 feet, at which point the body of pay ore is six feet thick. Masses of fine ore have been extracted from this incline. About 110 feet south of this work the company has commenced an incline five ft. wide and six feet high, which is to be sunk to the depth of 500 feet, with levels cutting the ledge at intervals of 100 feet. During the past summer a considerable part of the ore taken out of Leon & Co's mine was brought to this city for reduction, but preparations are being made to work the ore in that district in the future. The next important mine on the great ledge is the El Dorado North, belonging to the Belmont Co. The Champion learned from the foreman of the mine that a great body of rich ore had just been struck in the general incline which is being sunk on the line of demarcation between the two mines. Full two feet of the ledge yields ore which is estimated to pay from $6,000 to $10,000 per ton. It is characterized as the richest body of ore yet discovered in the district. Col. Buel is working the Transylvania and Highbridge mines of the Belmont Co. with vigor. The developments in the former mine are of a solid character. At the slight depth of 105 feet the ledge is seven feet thick, and is producing ore of finer quality than has yet been extracted. The Highbridge, which first gave character to the district, is being worked through a vertical shaft 160 feet deep, and the indications are that it will shortly produce valuable ore. The 10-stamp mill of the company at Belmont, will be furnished with reverberatory furnaces, by which means the valuable ores of the district will yield a larger proportion of their silver.

Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Virginia *Enterprise*, Oct. 2d: We were shown a bar of gold from the mine of the Sierra Nevada Co., at the north end of the city. The bar contained $2,118.47 in gold, and $102.65 in silver—total, $2,321.12. It is the product of 280 tons of ore, worked by the process common in California for gold quartz; that is, no amalgamating pans are used. The lot of 280 tons was run through the batteries in seven days, being at the rate of 40 tons per day. The whole cost of working does not exceed $2 per ton, whereas the yield per ton is nearly $8, leaving a clear profit of $240 per day for the mill. The ore crushed is taken from a sort of basin upon the side of the hill. It is a deposit of broken quartz and dirt resting above the regular lead, and there is apparently an almost inexhaustible supply of the same in the hill, the deposit being some 60 feet in depth and of an unknown horizontal extent.

The total shipment of bullion, for the month of September, from the office of the Pacific Union Express Co., in this city, was 4,000 lbs., valued at $117,766.60.

Oct. 3d: The Bonner shaft (the main shaft) of the Gould & Curry mine, day before yesterday, cut through a tough black clay, supposed to be that belonging to the west wall of the lead. The depth of the shaft is now a little over 1,100 ft.

Wells, Fargo & Co. and Union Express Co. shipped from their offices in this city and Gold Hill during the past week, 9,513 lbs. of assayed bullion, valued at $252,979.10.

Oct. 4th: The wraze to connect the 700 and 900-ft. levels of the Imporial mine is almost completed. The picks of these working upward can be distinctly heard by those who are working downward. The company have eight months ore in sight—principally on the 400 and 700-ft. levels.

A new mining district, called Black Mountain, has been discovered about 110 miles southeast of this city, and about 40 miles southeast of Walker Lake. Abe Bateman and Geo. Lamoreaux, are the discoverers of the new mines. The leads of the new district are gold bearing, and those that have been located show much free gold. Under the name of the Black Mountain Mining Co., Bateman, Lamoreaux, Burghess and others, have located three very fine leads and have commenced their development. They have sunk a number of small shafts, run in open cuts, and pretty thoroughly examined their leads upon the surface. They rigged up a rude arastra and worked a ton of ore from their principal lead, obtaining a fine yield of gold, notwithstanding the slovenly mode of working. The gold bar which Mr. Bateman brought to this city day before yesterday, was melted into a bar and assayed, and proves to be worth $45 per ton—nearly all gold. Mr. Bateman is confident that the ore will pay $80 per ton if properly worked. In working the lot above mentioned, they lost three or four pounds of quicksilver, and must have lost at least half the gold contained in the ore, as none of the parties were arastra experts. On the sides of the mountain about the leads of the company are at least 3,000 tons of ore in the shape of float rock, all of which shows an abundance of free gold. Their principal lead crops out upon the surface for a distance of 3,000 feet. The country rock is slate and porphyritic granite.

NEW MEXICO.

Santa Fe *Gazette*, Sept. 12th: News received from the Moreno or Maxwell mines, is that the mines hold out well. But few are at work on account of the scarcity of water, but those who can and do work are doing well. At New Orleans Flat, last week's run was 104 ounces, the number of men employed being only four. Willow Creek is turning out well, as they have some little water left. Grouse, Humbug, Negro, and all the other gulches are now dry. The ditch is about two-thirds completed; all the most expensive and most difficult is over, and the ditch could be completed in 30 days if the proper hands could be obtained.

OREGON.

Portland *Oregonian*, Sept. 28th: Quite an interest is again manifested in the Okanagan mines. Several places have been prospected this summer, and the results are rather encouraging.

A quartz mill will soon be taken into the Bohemian mines. Two more ledges have been discovered which prospect well.

Dalles *Mountaineer*, Sept. 25th: A new mining camp has been found about 30 miles from Pierce City, in the Bald Mountain district, and about 20 miles from the old Bald Mountain diggings. The creek on which this new camp has been discovered is about 10 miles in length, and it is thought that paying claims can be found on the entire distance.

Ancient Mounds Discovered in Utah. The Salt Lake *Telegraph* of September 19th has the following:

Prof. Simonin, engineer of mines, Paris, who is on a tour to the Pacific Coast, informs us that he has made an important discovery between this city and the Lake, while visiting the latter place during the present week. From his correspondence to us, he says that he was accompanied yesterday by Colonel Head, Postmaster Street, D. Huntington, Indian Interpreter, and two workmen to a sand mound, about eight miles west of this place, where they discovered the following interesting relics of another time: About eighty arrowheads of flint, cornelian, obsidian, etc.; a great number of human bones burnt; considerable debris of earthen pottery, some with a few ornaments; a hard stone of quartz or granite, some complete and some broken, which evidently served to grind grain; a few shells with a hole, which served as a collar, earrings, etc.; some small earthen articles, with a hole in the center for collars, etc.; some bones of animals, whitened by long exposure to the air, as of oxen, and perhaps buffalo, horses, squirrels, rabbits, etc.; but we are not sure that they are of the same age as the remains above mentioned.

Mr. Simonin thus continues:

What is to be deduced from these facts? First, that the system of mounds discovered in the Mississippi Valley extends perhaps to the Pacific, and that those mounds belong, secondly, in all the cases to a primitive race of Americans, different from the actual Indians, who do not know how to make earthenware, grind wheat or corn, or do not grind it by the same means as the aborigines who constructed the mounds, and finally, do not burn their dead nor put them under such mounds.

Facts about Land.—This State contains 188,981 square miles, or an area of 120,947,840 acres. It is computed that of this amount 89,000,000 acres, including swamp and tule lands, can be devoted to profitable husbandry. Of the whole area there are now forty million acres fit for the plow. There are also 40,000,000 acres to be classed under the general term of mineral lands, a considerable part of which can also be made very productive agricultural land. Only thirty millions of acres have been surveyed, leaving ninety millions unsurveyed, and not fairly accessible to the settler. Large quantities of this land are held by grant-holders, whose claims have been confirmed but have not been surveyed. In some instances a grant for 9,000 or 10,000 acres has been made to cover nominally, 30,000 acres. Under the Acts of June 2d, 1862, and July 1st, 1864, lands claimed through foreign titles are to be surveyed at the cost of the claimants. All foreign grants are to be found in the most favored localities, such as valleys where there are streams of water, and are also bounded by natural objects. If there is five times the quantity of land actually mentioned in the grant, the grantee holds it until the survey has been made, and be has a direct interest in delaying the survey until the latest possible day. Hence, large bodies of Government land have never been sectionized, and are not open for entry, because there is an unsurveyed grant in the neighborhood. Of the whole amount of arable land, 14,000,000 acres are in the valleys of Sacramento and San Joaquin; and about 16,000,000 acres are in the Coast Range. Beside the quantity enumerated as fit for the plow, there is a large breadth upon mountain sides where the vine produces the most perfect fruit. Poor lands with a red dry soils are now known to be choice localities for the grape. Nearly 9,000,000 acres of public lands in this State have, at various times, been appropriated for educational purposes, public buildings and internal improvements.

Saving by Machinery.—The number of threshing machines in the United States is set down at 235,000, and it is estimated that they save five per cent. more of the grain than the flail. This would save to the country more than 90,000,000 bushels of grain, worth at least $30,000,000.

MINING AND SCIENTIFIC PRESS.

W. B. EWER,.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

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WRITERS should be cautious about addressing correspondence relating to the business or interests of a firm to an individual member thereof, whose absence at the time might cause delay.

Our Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influences and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866

Dr. L. G. Yates is our duly authorized traveling agent. July 6, 1867

Mr. A. B. Butler is a duly authorized traveling agent and correspondent for this paper. July 15, 1867.

Resident Agents.

CENTRAL CITY, C. T.—Messrs. Richards & Crane, of the City Book Store, Main street, will act as our agents.

GEORGETOWN, C. T.—John A. Lafferty, Postmaster, is our agent in this place.

DENVER CITY, C. T.—Messrs. Woolworth & Moffat, are our agents for this place.

CHEYENNE, D. T.—Mr. Robert Beers is our authorized agent for this place.

OMAHA, N. T.—Messrs. Barkalow & Brothers, are our agents for this place.

San Francisco:
Saturday Morning, Oct. 10, 1868.

Notices to Correspondents.

EFFERVESCENT.—At common temperatures, say at from 50° to 60° Fab., pure water will absorb its own bulk of carbonic acid; but under bigh pressure and cold, it may be made to absorb a much greater quantity, ordinary soda water being usually made to absorb from ten to twelve times its volume of this gas. The absorbability of the chief gases by water, has a very wide range, as will be seen from the following table of this property, as respects the principal gases:

50,000 parts hydrochl. acid is abs'd by	100 parts	water.
48,000 parts ammoniacal gas	"	"
5,000 parts sulphuric acid	"	"
200 parts chlorine gas	"	"
100 parts carbonic acid	"	"
6.6 parts carbonic oxide	"	"
5.0 parts binoxide of nitrogen	"	"
4.6 parts oxygen	"	"
2.5 parts nitrogen	"	"

all which gases, with the exception of hydrochloric acid, can be expelled by long continued boiling.

SCANDINAVIAN. Alpine County.—Bergman, as well as Linnæus and Berzelius, was a Swede. To Bergman moderns are greatly indebted for the extension of those branches of chemistry which depend upon the employment of tests. For, although this method was first pointed out by Sir Robert Boyle, its extension and accurate use did not come into the employment of chemists generally, until the appearance of the Chemists' "Essay on Mineral Waters." Bergman was born in 1735, and died in 1784, his death having been hastened by too intense study. His researches constitute efforts of no common sagacity, when we consider the state of chemistry of his time.

SALINAS, State of Nevada.—The average annual consumption of common salt in England, for the purpose of being decomposed by means of sulpburic acid, exceeds 400,000 tons of 2,240 lbs each. The "salt cake" so formed is chiefly used in the manufacture of soda; but also as "salt cake" or crude sulphate of soda in the manufacture of the inferior varieties of glass.

LUCIFER.—Phospborus is generally obtained by digesting for some time in a leaden vessel, 100 parts of bone ash with 90 parts of oil of vitriol and 950 parts of water, filtering the solution, and evaporating it to the consistency of syrup, afterwards mixing the same with 20 parts of charcoal powder, drying, and eventually retortiug in an iron retort.

L. M.—The best method of preparing a large quantity of bicarbonate of soda, is to pass a stream of carbonic acid gas over an atomic mixture of crystals of soda (sal soda) and the dry carbonate. Great beat is evolved during the process, owing to the rapidity with which the gas is absorbed.

PYROS.—The most intractable earthy base hitherto discovered, when subjected to intense heat accompanied by an oxygenated atmosphere, is the oxide of zircon. It gives enormous luminosity to the blowpipe flame, when exposed to it.

S. P. J.—Is received and will be attended to next week.

The Geology and Ethnology of the Youkon Territory.

A VAST AREA OF AZOIC ROCKS.

With the exception of the coast south of the great snowy range, and a basin of which the Koyoukuk Mountain (17) may be called the center, the entire Territory of Alaska is Azoic; the rocks exhibiting no signs of life whatever,—no fossils,—being chiefly crystalline schists containing a great deal of quartz. Granite is a very rare rock. It was observed only in one place, at the mouth of the Tanana, and there it contained mica, which was the only mica found in the country.

The snowy mountains near the Arctic ocean are probably azoic, as the streams coming down from that direction into the Youkon were well searched for pebbles, and nothing but the crystalline azoic rocks could be discovered.



EXPLANATION OF DIAGRAM.—a, Kwichpak River. b, Norton Sound. 1, St. Michael's Island. 2, Grantley Harbor. 3, Plover Bay. 4, Behring Straits. 5, Kotelkargut River. 6, Nulato. 7, Nuklukahyet and junction of the Tanana River. 8, Fort Youkon. 9, Russia Mission. 10, Andreoffsky. 11, Colville River. 12, Sbakeluk Slough. 13, Kolmakoffsky Redoubt on the Kuskoquin River, and portage to the Mission. 14, Cape Romanzoff. 15, Mt. St. Elias. 16, Nushergak Lake and Chulitna River. 17, Koyonkuk Mountain. 18, Kusilivak Mountain. 19, Country of the Mablemuts. 20, Cook's Inlet. 21, Kodiak Island. S, Ounga Island. 22, Point Hope. 24, Carboniferous Formation. 25, Volcanic. 26? Supposed Tertiary. 27, Azoic Rocks.

VOLCANIC ROCKS

take a pretty important position in the geology of Alaska, the great snowy ridge being itself a volcanic outburst, and having numerous craters and volcanoes that are active and constantly smoking. The line of volcanic action extends out into the Pacific, forming the middle or backbone of the peninsula of Alaska, and the Aleutian chain of islands; being a link in the great circle of volcanic activity which Humboldt traced around the entire confines of the Pacific ocean. Most of the northerly islands, or at least their foundations, are composed of true volcanic lava, as is also the coast between the Youkon and along Norton Sound. In many places it assumes a rude columnar form, resembling the rocks of the Giant's Causeway in Ireland, as at the beach near Fort St. Michael. (1.) The islands of St. Pauls and St. Georges in Behrings sea are composed of amygdaloid lava which separated into six-sided columns of a basaltic character, but having the appearance of being very much cooked. They have frequent earthquakes in that country. Though nothing has been reported quite so terrible as the memorable convulsions of St. Thomas, the waters in the southern harbor of Ounga Island (21) became excited in the midst of an earthquake on the 15th of May last, and suddenly diminished from a depth of 24 feet to four feet, in part of the harbor; the bottom remaining at the latter position permanently. Perhaps, owing to similar causes, the Isanotsky pass in the Aleutian Islands which was heretofore marked in the charts as navigable, is now impassable, the schooner Francis L. Steele having been nearly wrecked on the sand bars in attempting the passage on her voyage up to Behrings Straits. Volcanic country is represented in the diagram by lines slanting northeast and southwest.

CARBONIFEROUS FORMATION.

After leaving the lava country near the mouth of the Youkou, the traveler, on going to the northward, soon enters a large basin, showing blue sandstone strata, probably belonging to the lower carboniferous era. The rocks contain fine vegetable fossils apparently related most nearly to that era. Above the carboniferous sandstone, and overlying it, there is a formation, the original strata of which have been denuded and replaced by some tertiary strata containing lignite or fossilized wood, but not in quantities to be of any economical value. The rocks that were denuded belonged probably to the upper carboniferous series, as, in going up the Youkon there is a point found just below the Koyoukuk Mountain where they are observed in position and where they contain true bituminous coal. A small vein of it crops out near Nulato, the greater part of which, however, has likewise been denuded. At Clantilinteu, 150 miles below Nulato, in the Youkon, there is another small seam of coal, discernible in the blue sandstone. The upper and lower carboniferous formations are represented by lines slanting from northwest to southeast in the diagram.

TERTIARY FORMATION.

South of the Alaska volcanic ridge of mountains, extending eastward so far as known from observations, to Cook's inlet, and westward so far as to include part of the coast and Kodiak, Ounga, Ounalaska, and possibly other islands of the Aleutian group, there are fossiliferous strata containing lignite, the geological age of which is not yet determined with certainty,—but it is probably Eocene Tertiary. At all of the places named, coal has been reported. There has been some "blowing" about valuable deposits, which is scarcely warranted by the true facts. At Coal Harbor, Ounga Island, which was surveyed by Mr. Dall, the coal was carefully examined, and additional information was acquired from the Russians, all of which tended to prove the known deposits as but poor in quality, and deficient in quantity. The formation supposed to be Tertiary, is represented on the diagram by horizontal lines.

THE POST-PLIOCENE AGE.

All over the Azoic country to the north of the peninsula of Alaska, and the principal ridge of mountains, there are scattered post-Pliocene fossils. In swamps and bogs, and alluvial deposits, there are frequent relics of the mastodon, the extinct hairy elephant, the musk ox, etc.; and in some places there are strata of post-Pliocene marl containing fossil fresh water shells, as at Fort Youkon particularly. (8) Those animals continued to exist down to the end of post-Pliocene times, since which the contour and level of the country have not materially changed.

GOLD AND OTHER MINERALS.

Gold bas been found at the mouth of the Porcupine or Rat River, the branch which comes in from the north at Fort Youkon. It is fine scaly gold, like iron filings, but there is scarcely a color to the pan. The country is accessible only for three months in the year, during which time, however, the mosquitoes will extend a demonstrative welcome to sweet-blooded adventurers. Stains of copper were observed in the rocks near Cape Prince of Wales, on Behrings Straits. Micaceous iron ore, magnetic oxide of iron, and hematite, are found all over the country, and are made use of by the Indians for paints. Obsidian pumice stone, and a mineral which might be lazulith, are also found. On St. Georges Sound, Behrings Sea, the ruby or light red spinel, has been found nicely crystallized in a form similar to the diamond, which it approaches in hardness.

ETHNOLOGICAL.

The coast tribes of Indians on all of the coasts from Sitka to Makenzie River, come under the general name of Esquimaux, though they are not by any means like the Esquimaux Indians of the eastern side of the continent and the shores of Hudson Bay. They are tall, fine, athletic people, very intelligent, and superior to the genuine American Indians of the interior. They are ingenious in the use of the knife, and in making things. Any northwestern Esquimaux will draw from recollection a good map of the country that he may have traveled over. Though they belong to the same general race as the little eastern Esquimaux, having words that are the same, they are evidently later comers. The language and people of the Esquimaux Indians are almost exactly the same on the American side of Behrings Straits as they are on the Asiatic side. When they meet they can converse and understand each other perfectly. In Asia they go under the name of Tschuktchis. On the American side they are known under different names; at Grantley Harbor (2) as Kaviaks; towards the interior, at 19, as Mahlemuts; around the mouth of the Youkon and Norton Sound (*b*) as Unaleets; further to the south, as Aleuts, with jaw-breaking subdivisions.

The Kaviaks and Mahlemuts go up annually to the north coast as far as Point Hope, (23) and Point Barrow (150) and beyond, fishing, etc. They are fond of traveling, and seem to go with the intention of having a fine time, just as the New Yorkers go to Saratoga or the White Mountains. They cannot go through the country, on account of the interior Indians, and therefore go around.

The Indians of the interior of Alaska are the true race of native American Indians. They call themselves the Youkonikatana or "men of the Youkon," and have the same general appearance and characteristics as other American Indians. They are fine looking, and many of them tall; have aquiline noses, whereas the coast Indians have flat noses. They are wilder and more warlike than the coast Indians; they wear great bushy heads of hair (inhabited and unattractive) while the coast Indians have a fashion of cutting off a portion of the top bair, so as to resemble the monastic tonsure. They cannot understand each other; and as the interior Indians seem to own the most difficult language, the result is that they frequently acquire the coast dia-

lect to some extent, or a kind of trading jargon which serves for international communications. They are not friendly to each other, but do not fight much. They are all dying out, of asthma and lung complaints, caused by a "forty rod" tobacco which they get from the Russians, and the fumes of which are drawn incessantly into the lungs. It does not appear that the interior or true American Indians have any relationship whatever to tribes in Asia.

The coast and interior Indians build houses alike, the latter having borrowed their ideas from the coast, if they have any houses at all. Winter houses are half underground, and covered with earth, having a hole in the roof. Fire is made about twice a day. They get into their houses by an underground passage ten or fifteen feet long, on their hands and knees, the exit being vertical like a ground-hog's hole, and framed over, to keep out the snow. Communistic principles are in vogue as to dwellings, and general property. Both the coast and interior Indians are honest, and do not steal nor murder, except where they have been supplied with whisky by the traders.

Contributions for our Cabinet.

Under this heading we shall continue to mention and describe, according to merit, such specimens of ores, minerals, fossils, curiosities, etc., as may be presented, or forwarded to us by mail or express, prepaid. Each article will be numbered and placed in our cabinet, and recorded with the name of the donor, and the claim or location from whence it came.

Mr. P. A. Haven, of Gold Lake, Sierra County, has sent us specimens Nos. 250 to 270 inclusive.

No. 250—Opal jasper; silica, containing a large amount of water, and several per cent. of iron; hardness between that of apatite and feldspar; being float or surface pieces from the gravel mines, and found in the vicinity of mineral charcoal.

No. 251—The same, found near the surface, granulated, and with less iron, which is partly in the form of greenish protoxide, and partly of the yellowish tinge which iron assumes in the cold borax glass.

No. 252—Opal, white and yellow varieties, the latter having the peculiar translucency of chalcedony and the resinous glance of the pitchstone. On one surface there is a white, soft mineral resembling chalk, but containing a great deal of alumina, cleaving strongly to the tongue, and when touched to water drawing it in eagerly with a rushing noise, without becoming plastic.

No. 253—Variety approaching to wood opal, which would commonly be called a petrifaction, as it shows a grained structure.

All of the above specimens are silicious concretions, like those so common in the chalks of England; occurring, as Mr. Haven says, in nests like hills of potatoes, but cracking and becoming coarse granular when exposed to the air. The country is described as a "burnt-lime, reddish sandy soil," and appears devoid of carbonates.

No. 254—Casing of the concretions; hardness like the preceding; in composition probably about the same as skapolith; in appearance resembling porcellanite.

No. 255—Genuine jasper, with beautiful bluish manganese dendrites.

No. 256—Chalcedony.

No. 257—Trachite.

No. 258—Hornblendic porphyry, with epidotic ground mass.

No. 259—Lime garnet, or grossular, characteristically crystallized.

No. 260—Iron garnet, or almandine, known in jewelry as the carbuncle. Probably some of these would be paid for by the jewelers, as they possess the deep translucent red characteristics of the precious garnet.

No. 261——Gold quartz from Gold Lake.

No. 262—Pebble of hematite.

No. 263—Vein piece of hematite, with jasper.

No. 264—Spinel, or ruby. A very small specimen, found in washing for gold. Of the size of a pea would be valuable.

No. 265—Hornblende rock, with coating of lime, probably from decomposition.

No. 266—Hydrated oxide of iron.

No. 267—Silica, crystalline, apparently from a stratified deposit.

No. 268—The same, covered with a peculiar moss.

No. 269—Epidote.

No. 270—Greenstone porphyry, with large crystals of orthoclase feldspar.

Proposed New Metallurgical Uses of Zinc and Lead.

Of nothing are our millmen more thoroughly convinced in these times than that quicksilver will not accomplish everything for them. Circumstances, and combinations of ores containing different ingredients, occur daily where the mercury refuses to go after the precious metal; there is an aversion, instead of an affinity. Millmen are even beginning to be aware that they must be more than "millmen." Beautifully-working iron stamp mills and quicksilver tubs will fill the bill only partially, in silver reduction especially—a proposition demanding now no proof. Hence chlorination, and sodium amalgam, and smelting, are receiving attention, and are being brought into practice; frequently to the benefit of enthusiastic experimenters, but more in the acquirement of a knowledge of practical metallurgical chemistry and of wisdom, than otherwise; which, after all, may be worth more as an attainment in life than the gold and silver which we seek for so laboriously instead, and do not always find. Thus thousands of experiments are made that result in the general good, though too frequently to the loss of "the company." Without touching upon the question of how this dear experience can be best got round, or obtained most economically, we will mention a thing or two about two new allied metallurgical processes which have some interest in connection with gold and silver extraction, and which seem to hang in suspense—probably frozen fast in the rejected crucibles of more than one experimenter who does not fully comprehend the nature of his failure. We allude to the zinc process of Mr. d'Heureuse, of this city, and the lead process of Mr. Fuller, of Chicago, both of which are patented, yet, so far as heard from, lying idle on the patentees' hands.

The powerful affinity of zinc and lead for gold and silver are ancient facts, that became known to smelters hundreds of years ago, for it was by smelting alone that all those metals were formerly extracted; and they occur together, more or less, all over the world. Full advantage is taken of the relative affinities of these metals in all the great smelting works of England and Germany, as well as out of these countries, where such establishments are little more than copies in the main.

The Pattinson process, which is based on the earlier crystallization and different specific gravity of poor silver lead from rich silver lead, so that the former may be skimmed off, had for its result the profitable remuneration of whole mining districts that had lain unworked for scores of years because the ores could not be made to pay—a brilliant example of the immense value and power of a little unthought-of principle.

The Parkes process makes use of a similar characteristic in the alloy of zinc with silver and lead. The resulting alloys are afterwards separated by cupellation and liquation, or sublimation.

The new processes of d'Heureuse and Fuller differ from all previous applications of the affinities of zinc and lead, in proposing to melt nothing but the zinc and lead respectively, requiring only a moderate heat, while the ores are left in their original condition, and are simply passed through the bath of melted metal by mechanical means. Were the heat increased to the smelting point of the ores, silicates would be formed, of a lighter specific gravity, and the process would not differ from ordinary smelting; but for that purpose proper furnaces and expensive blasts would be necessary. The advantages claimed by both the patentees are the cheapness of the simple pot or kettle required, and the perfect taking out, by the zinc or lead, of all the gold and silver in the ores that can be shown to exist by means of fire assay. So far as these claims are concerned, they are probably not very far wrong. But there are theoretical difficulties, if not practical ones, that have to be encountered, and which will appear obvious to the metallurgist. The sulphur introduced with the sulphurets in the lead process must necessarily combine with the metallic lead, and make a matt of sulphide of lead, which, being of a lighter specific gravity than the lead itself, will float in the form of a stratum on top. We shall have all the phenomena of cupola smelting, excepting only the third stratum, consisting of silicates. Chemically expressed, the pyrites, FeS^2, + Ph, will assume the forms of FeS + PhS.

In the zinc process, the result will be the same, with the additional aggravation of a greater liability to oxidation of the zinc. Whether the oxides and sulphides so formed would be measurably free from silver, or what amount of reducing, and matt desulphurizing, would have to be done in the daily operation of a process of working any given ore, are questions of economy, to be solved only by practical experiment and by the richness and refractory character of the ore by ordinary processes. Possibly the addition of iron might be made use of economically to precipitate the lead from its combination with sulphur in the matt.

We have watched the course of so many distressed, emaciated and forlorn dyspetics, of worn-out and prostrated females, who have taken a new lease of life, and gradually received vigor, strength, health and the power of social pleasure from the effects of PLANTATION BITTERS, that we are not surprised at the testimonials daily received. If it is a pleasure to do good in the world, how full must be the measure of the proprietors of these celebrated Bitters. *

NOTICE.—Persons interested in locating Mineral Lands in California or Nevada, will do well to observe the advertisement of N. Wescoatt, S. & M. E., in another column.

CO-OPERATIVE UNION STORE.—This is becoming one of the most useful institutions in the city, and the Mechanic and Laboring Man fully appreciate it. They are now enabled to buy their Groceries and Provisions 20 per cent. cheaper than ever before, and the very best articles in the market. The store is located at 115 Sutter street, Lick House Block, San Francisco. 6v16-aim

SAVE YOUR TEETH.—Drs. Jessup & Beers, over Tucker's Jewelry store, are now making a specialty of filling the fangs of dead Teeth, and building up broken crowns with *pure gold*—thus restoring them to their original usefulness and beauty. They are also using Nitrous Oxide for the painless extraction of Teeth, when so desired—the only absolutely safe anæsthetic ever discovered. In breathing it, it acts as a gentle stimulant, without undue excitement,—the sensation produced being truly delightful, the effect upon the lungs healthful, and in its results positively free from all danger. Prepared and administered daily at the Dental Rooms of Messrs. JESSUP & BEERS, corner Montgomery and Sutter streets, San Francisco. 16v16tf

IT
will heal
old sores, piles,
ulcers, cancers,
salt rheum, and break-
ing out on any part of the
body, and also removes pain
of every name or nature instant-
ly. It is a harmless liquid, and leaves
no smart or stain, and is called Moore's
Pain Paint. For catarrh and colds in the
head, Moore's catarrh remedy affords a safe,
sure and speedy cure. Both remedies sold
by druggists everywhere, and at Moore's
office, 539 California street, northeast
corner of Kearny, where all pain
is instantly removed, free
of cost, as hundreds can
now testify from ac-
tual tests.
8v17-3m

WHERE TO ADVERTISE.—The attention of traders and mill machinists is called to the fact that the *Mountain Messenger*, of Downieville, Sierra County, possesses many special advantages as an advertising medium over a majority of the interior press, it being the only public journal published within a radius of sixty miles, in the richest and most populous mining sections of the State. Its weekly edition is double the average of country papers, being without the range of large dailies, and having no competition at home. Its local columns afford many items for our city cotemporaries, while its rates of advertising are reasonably low. 10v17tf

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Improved Concentrators.

The above very SUPERIOR MACHINE,

WITHOUT DOUBT THE BEST IN USE,

Is now, since the retirement from business of Messrs. Goss & Lambard, of Sacramento,

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PACIFIC IRON WORKS,

Where the concentrators may be seen.

GODDARD & CO.

October 9, 1868. 15v17tf

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Great difficulty has heretofore been experienced by miners, and others in the use of Fuse, which has been subjected to deterioration from exposure to dampness during transportation, or during the great length of time which has passed between its manufacture and use. In addition to great painstaking in the manufacture of the California-made Fuse, the above and many similar objections are entirely obviated, and the operator can always depend with certainty upon the burning of his fuse.

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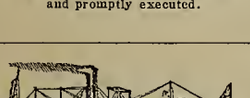
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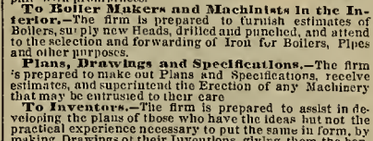
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The most compact, simple in construction, and durable, of any Engine in use.
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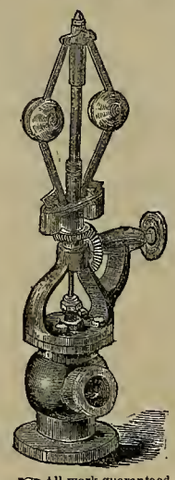
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Flue or Tubular **Boilers**, with plain circular or spiral courses. Upright Flue or Tubular Boilers, Locomotive and and Marine Boilers, and Wrought Iron Tanks of every description.
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Repairs.—Boilers, Smoke Stacks, Pipes, etc., put in repair with promptness.
To Boiler Makers and Machinists in the Interior.—The firm is prepared to furnish estimates of Boilers, supply new Heads, drilled and punched, and attend to the selection and forwarding of Iron for Boilers, Pipes and other purposes.
Plans, Drawings and Specifications.—The firm is prepared to make out Plans and Specifications, receive estimates, and superintend the Erection of any Machinery that may be entrusted to their care
To Inventors.—The firm is prepared to assist in developing the plans of those who have the ideas but not the practical experience necessary to put the same in form, by making Drawings of their Inventions, giving them the benefit of their practical knowledge in the construction of Machinery, and attending to the manufacture and introduction of their inventions. 1v16tf



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SAN FRANCISCO
Pump Manufactory
And Patent Water Closets.
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No. 747 Mission Street, bet. Third and Fourth.
House Plumbing and Gas Fitting in all of its modes. Lead, Iron and Copper Piping fitted for water, steam and gas. Ship Plumbing, and Ship Pumps made and repaired Hose of all sizes, Couplings and Nozzles, Roses and Rose Stands, and all kinds of Brass Cocks. Force, Lift and Suction Pumps of all sizes made and set to order.
I am now prepared to make all kinds of Pumps for miners and for irrigating in a large way. I am making four sizes of single acting Brass Pumps, similar to the Haden & Sanders Brass Pumps. I am also making a very superior Pump to any in this market for windmills, single-acting. I am making four different kinds of double acting Force Pumps, and different sizes of each kind. I am also making Artesian Well Pumps of a superior kind. This Pump may be lowered in any well to any depth desired. It is a force pump, or it is a suction pump, or it is a lift pump, and may be worked by hand or windmill, or any kind of power. Can be used for oil wells better than any other, and the Pump is the most durable and easiest repaired of any Pump in the country. I have now on hand thirteen Pumps in brass and iron, all of my own make.
I have invented and am making a superior double-acting Force Pump, called the GOLDEN STATE, which has great advantages over any Pump in this State. It is the easiest Pump repaired, and is the most durable of any Pump in the pump kingdom. Any one in want of a Pump or anything in my line, will do well by calling at my place before purchasing elsewhere.
☞This Pump received the **Silver Medal** and highest premium at the Mechanics' Fair; also the highest premium at the late State Fair.
☞I also keep all kinds of DOUGLASS and other makers' Pumps on hand. 11v17-tf

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FOR SALE.
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Lathes, Drills,
And MILL MACHINERY of every description.
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New and Improved
STEAM ENGINE
REGULATORS,
The best and cheapest yet invented—manufactured and for sale. Parties are invited to examine it in practical operation.
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Shingle Machines
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Particular attention paid to Repairing.
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Including High and Low Mortars, for wet or dry crushing; Furnace Irons for Roasting Ores; Freiberg Barrels; Varney's and Wheeler's Amalgamating Pans and Settlers; Stamp Shoes and Dies of best White Iron; Russia Iron Screens, etc., etc.
Flour Mill, Saw Mill and Sugar Mill Work in every variety; Pumping and Hoisting Machinery; Hansbrow's Patent Challenge Pump, for Domestic, Ship and Mining use—the most approved and successful Pump manufactured
Castings of every description, Iron and Brass.

We would call especial attention to "Wright's Patent Variable Cut-off Engines," of which we are the sole manufacturers on the Pacific Coast, under license from the Woodruff & Beach Co., Hartford, Ct. As a simple, effective, FUEL SAVING, first-class Engine, this is, without doubt, the best Engine made in the United States.
Orders promptly attended to. Prices as low as possible for first class work, and we intend to do no other.
GODDARD & CO.
San Francisco, May 1, 1868. 18v16tf

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Near corner of King and Third streets, San Francisco.
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CALIFORNIA BRASS FOUNDRY.
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☞PRICES MODERATE.☜
J. P. GALLAGHER. J. H. WEED V. KINGWELL.
9v13-1y

ASCENT OF MOUNT BAKER.—A correspondent of the Olympia (Washington Territory) *Transcript*, gives an account of the recent successful ascent of Mount Baker. He says:

The Mount Baker expedition has returned after an absence of fifteen days, having met with complete success. The party consisted of E. T. Coleman, Thomas Stratton, Inspector of customs, John Tennent, of Whatcom County, and David Ogilvy, of Victoria. They found two peaks, one hidden by the other. As there is scarcely an appreciable difference in their hight, these were named after Generals Grant and Sherman, respectively, the Grant peak being the one seen from the west or Victoria side. The stars and stripes were planted on both with appropriate national songs, given by Mr. Stratton, and joined in on the chorus by the party. Two rocky peaks of lofty hight, abutting on the mountain, were named after Abraham Lincoln and Schuyler Colfax. The party made a collection of minerals and plants, and have, it is believed, discovered some species which will be found to be new to science. Among others they observed the true Scottish heather and blue bell, which were previously discovered by John Bennett, of Whatcom, on the occasion of Mr. Coleman's first attempt in 1866, and since pronounced, though known in Canada and Carriboo, to be the first discovered in the United States. Mr. Stratton, whose knowledge of geology and long experience of gold mining in the mountain districts of California entitles his opinion to respect, noticed three extinct craters, specimens from which have been obtained. Mr. Stratton is also of the opinion that sandstone or the coal measures is the principal formation in the section of the country explored by the party, and that there is not any gold on this side of the Cascade range. The mountain was approached by the Lummi or Nootsac, which flows into Bellingham Bay, eight miles from the coal mine, then by the middle fork of the river to its base. From this point to the snow line the ascent is very steep and fatiguing, and occupied three days, being through a country covered with dense brush and destitute of any trail or elk track. The mountain is surrounded with glaciers, of which five large ones were counted besides several smaller ones—second or rudimentary glaciers as they are termed by Prof. James Forbes. The great crevasses or chasms in the neve or upper snow fields, were found to be more firmly bridged over than they were on Mr. Coleman's first attempt, and offered a comparatively easy passage to the travelers, at the same time they did not neglect the usual precautions of attaching themselves with a coil of rope, carrying ice axes, alpine poles, and of wearing crampons or creepers, etc. The hight was estimated at 11,571 feet, with an Aneroid barometer, which, however, is never reliable at considerable altitudes.

A FRENCH doctor has discovered that much of the ordinary claret is made of a solution of alum.

The Risdon Iron & Locomotive Works.
Incorporated, April 30, 1868. Capital, $1,000,000.
Location of Works, Corner Beale and Howard streets, SAN FRANCISCO.
Successors to Pacific Mail S. S. Co. Works at Benicia, Coffey & Risdon, and Devoe, Dinsmore & Co., San Francisco.
Steam Engine Builders, Boiler Makers,
MACHINISTS AND FOUNDRYMEN.
All work in their line attended to with promptness and dispatch. DIRECTORS—S. F. Butterworth, Lloyd Tevis, Jas. Pollock, Gen. Holladay, Chas. E. McLane, John N. Risdon, Joseph Moore. John N. Risdon, President; Joseph Moore, Vice President and Superintendent; Chas. E. McLane, Treasurer; Lewis R. Mead, Secretary; Lewis Coffey, Superintendent Boiler Works. 8v17-qy

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STEAM ENGINES,
Flour and Sawmills, and MACHINERY of all descriptions made and repaired at shortest notice.
☞Particular attention paid to repairing Reynold's Cut-off 5v16qr

WM. HAWKINS. T. G. CANTRELL.
HAWKINS & CANTRELL,
MACHINE WORKS,
Nos. **210** and **212** Beale street, between Howard and Folsom streets, San Francisco.
Manufacturers of STEAM ENGINES and all kinds of Mill and Mining Machinery. N. B.—Jobbing and Repairing done with dispatch. 10v17 3m

To Inventors.
The undersigned is now prepared to assist inventors or others by manufacturing Models for the Patent Office, large working Machines or Devices of every description, in Metal or Wood, in the most workmanlike manner and at reasonable rates. Also, Patterns for Iron and Brass Work and all kinds of Machinery.
Having had ten years practical experience in this city, parties can be assured all work entrusted to me will be executed in a prompt and satisfactory manner. Power will be granted to parties wishing to test or experiment with machinery.
☞Full files of the Patent Office Reports for the use of patrons. **J. H. CULVER,**
3v17-3m **20** Fremont street, over Phœnix Iron Works.

PHILOSOPHY IN THE FOOT HILLS.—The following ideas, from a miner in a quiet and sunny ravine in El Dorado County, who, we are ready to vouch, is an honest man, as well as a philosopher and a poet, will be found eminently just, and suggestive:

After inveighing against the bad policy of miners running in debt and then lying idle with the expectation of selling out "for a big thing," he continues: Now is the time to look to your interest in all kinds of business; now is the time to stop talking about negros and mongrels, or Chinmen bein pnt in office; if you will Just take notice of some of our fellowmen and see how degraded they are, no wonder the people in California is Coming allarmed on account of the black race. Why, half the population of all the mining towns that I have lived in are saloon-keepers and Idle harpers on politics, and gamblers with their hie heels boots, stuck up on some post as high allmost as he stands, and with a good havana at the expense of some working man, some good man swindled out of his caruings. In my opinion these towns have got to be sifted of so much Idleness. I do not approve of one man doing moore than he is able; any man that is aman, can work eight hours. Many a poor Californian, broken down in health and bad luck, now at this day lays in some lone cabin, paralyzed, in the depbth of sorrow, old age coming on, and they seem to think they aro as young as ever. Only think, all you that came here in forty-nine, twenty years aded to thirty, and have not laid up $50 a year. Why MR. EDITORS its Enough to paralyze any industrious man to walk along these old deserted streams that has been so rich, and see men look so poor and degraded, in some old smoky cabin, and cobwebs and old burbon whisky bottles; now and then medicines for rumatism or paralyzed invalides; and these beautiful streams,—healthy trout streams,—oh just look you hoo have been here since forty-nine. No wonder my nabors often say I'm in meelancholy love. What are the company now of these mon? nothing but long tail, sultry looking Chinamen, or the buffalow head indians, with as much hare on his head as a black Canadian pony's mane or tail, and these flat Chinaman's voices which sounds like tame geese eating corn Early of a cold and frosty morn, with now and then a squeaking blue Jay which breaks the mealancholy reveri of all the day.

THE FATE OF JAPANESE TRAVELERS.—Bitter enmity is still manifested towards all Japanese who have traveled abroad, by their countrymen at home. Kisabro, who visited the United States with Mr. Van Reed, a few years since, is said to be only saved from immolation by wearing the American uniform, as he is entitled to do as an attaché of the American Embassy. Even the titled nobles who came out here as Commissioners to purchase war vessels, and returned home with the ram "Stonewall," fared no better; in fact they were worse off than the others, as they, being "Tycoon's men," labor under an additional disadvantage, especially in the south of Japan. Since their return to Yokohama, they have been keeping close under American protection, Satsuma, the present commander in that quarter, being determined, it is said, to make them each a head shorter if he can get his hands on them. Finding their condition worse than that of State prisoners condemned to the galleys, and that there was no hope of a speedy return of peace to their country, they finally determined to return to America and remain for a time, at least, in a land of freedom and personal safety. They accordingly returned by the Great Republic, and are now stopping in San Francisco.

MR. WINANS, the American contractor of the Petersburg Moscow Railway, is doing some service to legal science. He has had the whole "Corpus Juris" of Russin, (the "Swod Sakonow") translated into English, having employed thirty-eight men in his office for more than a month; his object being to sustain his contract with the Russian Government. The translation is to be published in London.

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Ores carefully Assayed. Gold and Silver Ores worked.
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Devoe's Illuminating Oil.
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A Practical Guide for the Perfumer; Being a New Treatise on Perfumery the most favorable to the Beauty without being injurious to the Health, comprising a description of the substances used in Perfumery, the Formulæ of more than one thousand Preparations, such as Cosmetics, Perfumed Oils, Tooth Powders, Waters, Extracts, Tinctures, Infusions, Spirits, Vinaigres, Essential Oils, Pastels, Creams, Soaps, and many new Hygienic Products not hitherto described. Edited from Notes and Documents of Messrs. Debay, Lunel, etc., with additions by Professor H. Dussauce, Chemist. 12mo..... $3 00
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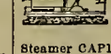
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Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents
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CUTTING WOOD ON GOVERNMENT LAND. Several days since a man named Murray was convicted in the U. S. District Court of cutting timber on lands reserved by the Government of the United States, in a place known as New York Cañon, El Dorado County. The defendant was brought into Court for the purpose of hearing its judgment, but several respectable men of El Dorado County had interested themselves in behalf of Murray, on account of his family, which consists of a wife and five children, and Judge Hoffman stated that the sentence would be suspended, but assured Murray that if he repeated the offense the penalty would be imposed.

THE POWDER COMPANIES propose to make some experiments next week in rock blasting, as an offset to the Hafenegger and Giant powder trials. Lime Point will probably be the locality selected.

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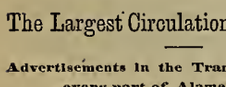
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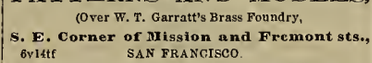
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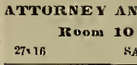
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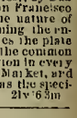
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Summary of the Geology and Mining of California and Nevada.

NOTES OF A MINING ENGINEER.

J. S. Phillips, M. E., of this city, has written several interestiag letters to the New York *Gas Light and Mining Journal*, descriptive of the geological, mineralogical and topographical features of this coast,—California, and more especially Nevada,—where he has made extended observations in connection with his profes'onal duties in the interest of various mining and metallurgical enterprises. He says:

The coast line is a mountainous chain, which, from general contour and appearance, is more or less volcanic for its whole length; its crowding cones, dark striated streaks of lava, drifts of debris, abrupt contortioas and shaded gulches, contrasting with the diversity of colorings from the various igueous, primitive, trausition, and secondary rocks. Tho mighty chain of mountains (extending from Cape Horn to the most northern shore of North America) passes from view as we cross the gulf, and make the peniusula of Lower California, which commences what is called the upper coast range, the former being denominated, where it parallels the Californias, the Sierra Nevada mountains. Between these two raages, au elongated basin of the various secoadary strata (of several hundred miles in length by 100 miles in breadth) has been uplifted from the ocean's hed, so unoqually and at such irregular periods, that labyrinths of river beds and volcanic dykes, with transition and secoadary coutortions, are found at various levels, strangely intermingled with the fossils and petrifactions of past ages. This region is now drained by the Colorado, Sacramento, St. Joachin rivers and their tributarics.

Conforming to the history and analogy of mining elsewhere, we fiad the gold fields and profitable quartz ledges *near the junction of the primitive with the secondary strata;* on the western corrugated declivities of the granitic transition and secondary foot hills and ravines of the Sierra range, which is mostly composed of various granitic rocks, and forms the western margin of the extinct volcanic region, that extends (with slight exceptions) for some 500 miles across the Nevada State.

Passing over the Sierra Nevada Mountain, the famous Comstock ledge is situated (some 6,000 feet ahove tho ocean,) on its eastern slope, which is hero composed of syenite, graaulite, and feldspathic rocks, and which dip under the ledge eastward; over the ledge a broad irregnlar belt of semi-decomposed feldspar fronts the more prodnctive sections thercof, and forms a rapid transition to the igneous rocks that prevail for several hundred miles east of this range to the Rocky Mountains. This region is elevated about 4,500 feet ahove the sea, and some twenty ranges of mountains arise therefrom iu northerly trendings, and remarkably regular corrugations, from 20 to 30 miles asunder, and from 4,000 to 6,000 feet above these alkaline flats.

The Humboldt Mountain is situated near the center of a very large county of this name; the highest point of its profile is called Star Peak, which is, in common with its general upper crust, composed of blue limestone, that has been upheaved by an extensive and powerful volcauic dyke, to the elevation of 11,500 feet above the level of the sea. This dyke, protruding from its eastern side aud running for upwards of twenty miles, has uplifted and produced the various modified formations found to exist of carbonate of lime, clay slate, granulite, syenite, feldsite, quartzite, porphyry, trap, aad lava. Staading on Star Peak as a center, a fine summer's day unfolds a most extensive and instructive radial view of 160 miles westward to the Sierra Nevada, south to Arizona, east to the Austin Mountain, and north to the pinnacles of Idaho; beiag an area of 90,000 miles, that is inhabited by four Indian tribes. This view is as conspicuous as many sea views of but 30 miles; and the landscapo terminated from the rotundity of the earth more than from the haze of atmosphere. It is peculiar for the rugged, disjointed contour of its enormous amount of irregularly washed naked rock on the mountains, which trend north and south, like so many very elongated, equi-distant, pyramidal islands in the ocean; the sand flats being all of about the same level and alkaline appearance, whereon the sage and grease hush grow, alone, in the wilderness.

It is indeed a strange land; its climate is mild and pure; its aborigines are wild and fierce; however rich its bold perspective, the mincral prospects are poor; though the mountains expose thousands of square miles of bedrock, but few ledges are fonnd to reward the prospectors of this vast cemetery; where in the gradnal uprisings from the ocean's muddy bed, fish, animals and forests grew and petrified; now meandering rivers sink through the volcanic chasms and *debris* of past ages. A perfect combination of panoramic, geological illustrations, showing the diversified and progressively provisional intention of the great Creator through the past. In journeying from this Humboldt Mountain southeasterly, the first range (which I have crossed in eleven places) is composed of similar elcme its to the former, with greater ratios of porphyry, lava and feldspathic mixtures.

The second, third, fourth and fifth ranges are almost entirely composed of porphyritic and other feldspathic varieties, with rare and small patches of ungenerous clay slate and carbonate of lime, upriseu from the flats, in which no ledges of great value have been discovered.

The sixth range, constitnting what has been denominated the Toyabe or Austin Mountain, and the Reese River district, is more primitive in structure, being of the various granites, gneiss, granulite and syenite, with occasional volcanic dykes, and patches of secondaries. This appears to be the only *extensive miningfield* with sufficiently interesting inducements for capitalists that I have seen between tho Sierra Nevada and the Rocky Mountains.

Travelling S. S. E. ahout 90 miles, and crossing over the seventh range, which is mostly composed of porphyritic formations, the district of Philadelphia, or the "Silver Bend," is situated and uplifted from the flat, as small foot hills of clay slate, in a lap of the porphyritic mountain, and over a very strong quartzose reef, that extends for a considerable distance. In this small district of clay slate, which dips about 50° easterly, the Highhridge ledge has been discovered, dipping with the stratum, and is being worked by several companies in extension. This ledge was developed some 60 feet deep at the time I visited Belmont City, averaging in the shaft, open cut, and under drift, four feet in width, and showed indications for profitable mining.

The eighth, ninth, tenth, eleventh twelfth and thirteenth ranges are even more igneous than those described, and possess little of the concomitants of superlatively rich mining fields. On the slopes of the eleventh and twelfth, in upraisings of ungenerous lime stratum, are the districts of Hot Creek (Rattlesnake Cañon) and Reveille, where rich irregular pockets of silver ores have hut infatuated the inexperienced, and injured the real legitimate mining of quartz ledges hy companies possessed with the necessary funds for realization on the large scale.

In mining, transverse tunnels have been too much driven, and often through very hard bedrock, where they might have been driven on the ledge with half the money and with tenfold satisfaction. Shafting on a ledge has hecn disregarded, and mines have been unrealized for want of deeper exploration.

The greatest mistake of the investor in the mines of this district, has been to expect profits at the surface, instead of working some *three or four* ledges that appear to be worthy of *speculative* sinking to a sufficient depth, to reach the more mineralized portion of their sections, where reasonable prohahilities would favor success.

In conclusion, I mnst say that,as a whole the *discoveries* of the Nevada State have beeu painted far too rosily, as too mauy are painfully aware, and the total balance shows. My impression is that much valuahle mineral lies in *unseen* ledges helow the foothills of the mountains, under the sand debris that cover the *secondary flats* between the mountains, and *near their junction* therewith; but this will be for the more systematic perseverance of future generations; in the meantime the State of Califoruia, containing such vast areas of uplifted clay slates, exposes the largest and richest mining field yet discovered in the world.

POPULATION OF SAN FRANCISCO.—The *Bulletin*, editorially, estimates the present population of San Francisco at 153,300. The increasc by immigration siace the end of 1867, is put down at 10,806, aud by births at 3,100—the latter being offset by 2,323 deaths.

THE large amount of land lying hetweeu San José and San Francisco, on the line of the railroad, which by order of the Commissioner of the General Land Office was recently restored to entry under the preëmption laws, has already been taken up hy speculators, who stood ready to cover it with school land warrants.

COAL IN NAPA.—Traces of coal have been found in Napa Valley, ahont 2½ miles from St. Helena, and near White Sulphur Springs, at a place called Pine Cross. So far, only a hundred pounds or so of the outcroppings have beea gathered, but it is said to burn well. The sample shown us is a bright coal, almost in the condition of dust, and sometimes adhering to shale.

NEWS has been received from the German Arctic expedition, under the date of the 20th of June. Greenland has just been sighted, and the crew were in good health.

New Mining Advertisements.

Bunker Hill Quartz Mining Company. Location of Works: Near Amador, Amador County, Cal.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the nineteenth day of May, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. shares.	Amount.
H H Chandler	7	20	$200 00
H H Chandler	8	20	200 00
H H Chandler	9	10	100 00
Joseph H Capen	31	10	100 00
Joseph H Capen	33	6⅔	66 67
Ann Maria Chandler	34	10	100 00
Ann Maria Chandler	35	6⅔	66 67
L E Chase	13	20	200 00
L E Chase	14	20	200 00
L E Chase	56	5	50 00
S Ed Chase	10	20	200 00
S Ed Chase	11	20	200 00
S Ed Chase	55	5	50 00
Benj F Perkins	54	10	100 00
Curtis, Bouve & Co	16	20	200 00
Curtis, Bouve & Co	17	20	200 00
Curtis, Bouve & Co	18	10	100 00
Emery Taylor	22	20	200 00
Emery Taylor	23	20	200 00
Emery Taylor	24	10	100 00
Oliver H Bay	25	20	200 00
Oliver H Bay	83	4	43 00
Oliver H Bay	92	1	10 00
Ezra Farnsworth, Trustee	74	20	200 00
Ezra Farnsworth, Trustee	75	5	50 00
James Hunnewell	76	20	200 00
James Hunnewell	77	16⅔	166 33
John Preston	79	24	240 00
W A Palmer (sold to J Preston)	73	10	100 00
A G Greeley	86	5	50 00
A G Greeley	93	10	100 00
A G Greeley	94	5	50 00

And in accordance with law, and an order of the Board of Trustees, made on the second day of September, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, in Front of City Hall, corner of Kearny and Merchant streets, San Francisco, California, on the twenty-sixth day of October, 1868, at the hour of 10 o'clock A. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

WALES L. PALMER, Secretary.

Office, No. 19 First street, San Francisco, California. oc10

Chiptonena Mining Company—District of Ures, Sonora, Mexico.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the seventh day of September, 1868, the several amounts set opposite the uames of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Moshcimer, Jos	56	25	$125 00
Moshcimer, Jos	57	26	130 00
Smith, R	86	5	25 00
Quin, Thos	85	5	25 00
Anderson, J	94	29	145 00

And in accordanee with law, and an order of the Board of Trustees, made on the seventh day of September, 1868, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the salerooms of J. Middleton & Son, 310 Montgomery street, San Francisco, on the twenty-sixth day of October, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN F. LOHSE, Secretary.

Office, 318 California street, up-stairs, San Francisco. oc10

Diamond Copper Mining Company. Location: Rockland District, Del Norte County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 4th day of February, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Lewelling, J	304	8⅓	$16 67
McNamara, Mary	183	8⅓	16 67
Peterson, Geo C	179	5	10 00
Peterson, Geo C	280	25	50 00
Remington, J C	93	1	2 00
Weber, C M	32	50	100 00
Weber, C M	33	50	100 00

And in accordanee with law, and an order of the Board of Trustees, made on the tenth day of September, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by R. R. Rollins, auctioneer, at salesroom No. 522 Markel street, San Francisco, Califo rnia, on Monday, the twenty-sixth day of October, 1868, at the hour of 11 o'clock A. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. A. COOLIDGE, Secretary.

Office, Room 40 Merchants' Exchange Building, California street, San Francisco, Cal. oc10

Hope Gravel Mining Company. Location of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifth day of October, 1868, an assessment (No 26) of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 25 Merchants' Exchange, California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on Tuesday, the tenth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirtieth day of November, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary.

Office, No. 25 Merchants' Exchange, south side of California street, between Montgomery and Sansome streets, San Francisco, California. oc10

Washington Mining Company.—Location of Works: Nevada County, California.

The regular Annual Meeting of this Company, will be held on SATURDAY, THE THIRD DAY OF NOVEMBER, 1868, at one o'clock P. M., at the office of the Company, No. 318 Front street, San Francisco.

JOHN J. SCHEELER, Secretary.

San Francisco, Oct. 10, 1868. oc10

Mining Notices--Continued.

Chalk Mountain Blue Gravel Company.—Location of Works: Nevada County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the seventeenth day of August, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No Certificate.	No. shares.	Amount.
E C McComb	51	25	$25 00
P C Lander	48	75	75 00
P C Lander	50	150	150 00
John K Mead	49	50	50 00
Wesley Henderson	67	100	100 00
Albinus Ingle	74	10	10 00

And in accordance with law, and an order of the Board of Trustees, made on the 17th day of August, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, No. 426 Montgomery street, on the twelfth day of October, 1868, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. BUFFINGTON, Secretary.

Office, Room 37 New Merchants' Exchange, California street, San Francisco. sep26

Kearsarge Mining Company, Kearsarge District, Inyo County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of September, 1868, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 408 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-second day of October, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the tenth day of November, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINGARD, Secretary.

Office, 408 California street, San Francisco. sep19

Oxford Beta Tunnel and Mining Company, Esmeralda District and County, State of Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the eleventh day of August, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificates.	No. Shares.	Amount.
Geo C Perkins..97, 98, 99, 100, 101-15 ea	75		$37 50
Ira P Rankin	not issued	100	50 00
M C Kyes	142	7	3 50
M C Kyes	187	3	1 50
A Farnsworth	208, 2+4-10 ea	20	10 0 9
A Farnsworth	262	20	10 00
A M S Hennell	213	50	25 00
E Frank Clark	216, 217-10 ea	20	10 00
E Frank Clark	218	5	2 50
S M Hoges	153, 154, 155, 156-10 ea	40	20 00
S M Hoges	206	20	10 00
R P Stickney	223	10	5 00
R P Stickney	247, 248, 249-5 ea	15	7 50
T N Rowry	215	5	2 50
J C Medley	255	10	5 00
B S Muson	259	35	17 50
Larkin Smith	261	50	25 00

And in accordance with law, and an order of the Board of Trustees, made on the eleventh day of August, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, Cal., on the twelfth day of October, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

GEO. H. PECK, Secretary.

Office, 212 Clay street, San Francisco. sep26

Providence Gold and Silver Mining Company, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of September, 1868, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the seventeenth day of October, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the fifth day of November, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary.

Office, Room 37 New Merchants' Exchange, California street, San Francisco. se19

Silver Sprout Mining Company.—Location of Works and Mines: Kearsarge District, Inyo county, Cal.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the fourth day of August, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No Certificate.	No. Shares.	Amount.
Alberding, F H	16, 17, 26	3	$90 00
Cozens & Cleveland	32	1	30 00
Devin, Bendere & McMillin	not issued	2	60 00
Gillig, John	34, 37	32	960 00
Gray, T C	63	7	210 00
Hearst, George	27	10	300 00
Mott, E B, Jr	82, 84	10	300 00
McMillin Thos	75	1	30 00
McLaughlin, J W	74	50	1,500 00
Martinez, Ladislao	30	4	120 00
Wingard, A	22, 50, 53	16	480 00

And in accordance with law, and an order of the Board of Trustees, made on the fourth day of August, 1868 so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on the twenty-first day of September, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T B WINGARD, Secretary.

Office, 408 California street, San Francisco. sep5

POSTPONEMENT.—The above sale is hereby postponed until Wednesday, the twenty-first day of October, 1868, at the same hour and place. By order of the Board of Trustees.

sep19 T. B. WINGARD, Secretary.

PATENT OFFICE REPORTS, from 1843 to 1847, MECHANICAL are wanted for duplicate copies at this office. Parties having them for sale will please state price, and address NEWEY & CO., Mining and Scientific Press office, San Francisco.

Postponements and Alterations.—Secretaries are requested to give notice of postponements, or alterations which they may desire made in their advertisements at their earliest convenience. New advertisements should be handed in as early as possible.

THE MINING AND SCIENTIFIC PRESS has entered upon its XVIIth Volume. It has donned a new-style hat; or, in newspaper parlance, a new heading, which gives it the solid, scientific look it merits. Other improvements typographical are also noticeable. No call for improvement in its matter.—*Amador Ledger, July 18th.*

Machinery.

VARNEY'S
PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has everrequired repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

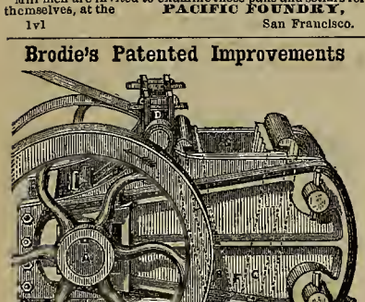
The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others.—They bring the pulp so completely and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setlars for themselves, at the **PACIFIC FOUNDRY,**

1v1 San Francisco.

Brodie's Patented Improvements



FOR THE TREATMENT OF

Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:

No. 1—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price..... $600

No. 2—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour..... 850

No. 3—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour..... 1,200

These Crushers have been erected at several mines in the State of Nevada, and others in Calaveras, Tuolumne and Mariposa counties, to whom applicants can be referred as being the most efficient, cheapest, and least weight compatible with strength and durability, of any Crusher yet erected.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.

JAMES BRODIE, Fulton Foundry, or
CHARLES RADCLIFF,
Express Building, 402 Montgomery street,
12v13tf San Francisco.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE
—BY—
WM. P. BLAKE,
Corner First and Mission streets, or Box 2,077
3v13f SAN FRANCISCO.



REMOVAL.

E. O. HUNT'S

Manufactory of

Windmills, Horse-Powers and Pumps,

Has been removed from the old stand on Second street, to

114 and 116 Spear st.,

Next above Stuart and south of Mission st., San Francisco.

Hunt's Patent Wind Mills, Tread Horse-Powers, Sweep Horse-Powers, (for one or four horses), Sawing Machines, Pumps of all kinds for shallow or deep wells,—including Hunt's Submerged Pump, Hunt's Globe Pump, and Hunt's Single and Double-Acting Pump. Pumping Machines and general Machinery kept constantly on hand and built to order.

Also, Water Tanks of all sizes.

Having put up large new buildings specially for my business, with greatly increased facilities in the way of room and steam power, I shall be able to build everything in my line at greatly reduced rates.

All desirous of procuring water for irrigating or other purposes, are invited to examine my articles before purchasing elsewhere.

2v16 **E. O. HUNT, Proprietor.**

GLASGOW
Iron and Metal Importing Company

Nos. 25 and 27 Fremont street,

SAN FRANCISCO,

Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings, which they offer to the trade on liberal terms.

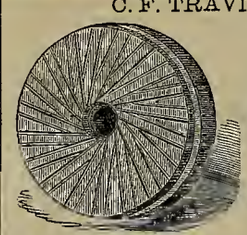
2v16-3m W. McGRINDLE, Manage.

Fire, Hose and Machine Belting.

THE SUBSCRIBER CONTINUES TO MANUFACTURE Oak Tanned Leather Fire Hose, warranted superior to Eastern Hose, manufactured at the Sixth Street Tannery, San Francisco.

2v16tf JOHN J. FULTON.

C. F. TRAVIS,



Manufacturer of

FRENCH BURR Mill-Stones,

AND

PORTABLE MILLS.

Agent for

Dufour & Co's Celebrated

DUTCH ANCHOR BOLTING CLOTHS.

Mill Picks, Mill Picks Dressed, Mill-Stones Repaired and Rebuilt; Mill Stones Balanced with Fellenbaum's Patent Balance, of which I am sole Proprietor for California, Oregon, and Washington Territory. C. F. TRAVIS.

5v16tf 109 Mission street, San Francisco.

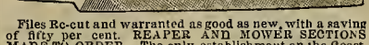
Belting and Lacing.

AN ENTIRELY NEW AND SUPERIOR ARTICLE OF exclusively mechanical preparation, made to order on short notice, and for sale by H. ROYER, at 435 Brannan street, between Third and Fourth. Refers to Elsen Bros., Pioneer Mills; Martin Stein, National Mills; Horace Davis, Golden Gate Mills; also, N. W. Spaulding, Saw Manufacturer. 6v16-3m

PACIFIC FILE WORKS,

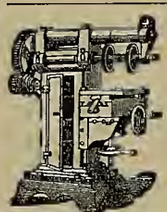
No. 53 Beale Street, bet. Market and Mission,

SAN FRANCISCO.



Files Re-cut and warranted as good as new, with a saving of fifty per cent. REAPER AND MOWER SECTIONS MADE TO ORDER. The only establishment on the Coast. Orders from the country promptly attended to. ☞ First Premium awarded at the State Fair, 1867.

2v17-3m **T. G. DURNING & CO**



Standard Milling Machine.



Pipe Vise, with or without Extra Jaw.

UNION VISE COMPANY,

OF BOSTON, MASS.

Extra jaw, and heavy Vises. Warranted for heavy work. New style Wood and Covered Screw Vises, forty styles and kinds; Standard Milling Machines, simple, great capacity, power and strength—two sizes, large, 2,300 lbs; small, 930 lbs. For sale by the trade.

23v16-1y G. H. NOTT, Pres.

FOR SALE,
BY STANFORD BROS.,

DEVOE'S COAL OIL, PARAFINE OIL, MACHINE OIL, Lard Oil, China Oil, Neats Foot Oil, Sperm Oil, Boiled Linseed Oil, Alcohol, Polar Oil, Tanner's Oil, Elephant Oil, Binnacle Oil, Turpentine, Oil Soap, Crude Petroleum, Lamp Stock of all kinds. GASOLINE, Gravity 84. NAPHTHA, Gravity 65 and 71. Also, GRANT'S CANDLES, in lots to suit.

10v17-3m

NELSON & DOBLE,

AGENTS FOR

Thomas Firth & Sons' Cast Steel, Files,

Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks,

Stone Cutters', Blacksmiths' and Horse-Shoers' Tools,

319 and 321 Pine street,

Between Montgomery and Sansome, San Francisco.

10v14qr

J. SWYNEY,
MARINE ENGINEER,

53 Montgomery Block, San Francisco,

Is prepared to furnish General Plans, Specifications, and full detail Drawings for propeller or side-wheel steamers, iron vessels of all classes, engines, boilers, etc. Also for locomotive or stationary engines, and machinery in general. An experience of over twenty years in this profession enables us to furnish correct drawings and guarantee results.

6v14-1f

Notice to Miners,
Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG,

8v13-1y Stove Store, No. 125 Clay street, below Davis.

STOCK CERTIFICATES,

STOCK TRANSFER JOURNALS,

STOCK LEDGERS,

ASSESSMENT RECEIPTS,

And all other Blanks, Blank Books, etc., required by Mining and other Corporations, kept on hand or printed to order on short notice, at moderate prices, at the office of the *Mining and Scientific Press.*

New Potato Digger.

Parties interested in saving considerable time and money by using the

PACIFIC

POTATO DIGGER AND SACKER,

Should not delay the present opportunity of having one in time for the late Potato crop this season.

☞ Liberal terms to Farmers' clubs ordering more than one. This arrangement secures to members in rotation the great benefit of a machine, and materially reduces their outlay. A Potato Digger of this kind is sufficiently strong for general ranch purposes, and will dig, clean and separate, according to sizes, and sack six to seven acres of potatoes daily, besides the important saving of so much time, and at less than half the cost of the present expensive and dilatory method by hand.

It would require one man from forty to fifty days to accomplish the same amount of work.

A WORKING MODEL may be seen from 11 to 12 and from 1 till 6 o'clock daily, in operation until the 10th of October, at Risdon's Machine Works, corner of Beale and Howard streets, San Francisco.

12v17-1m

Heuston,
Hastings
& Co.,

ARE THE

Fashionable Clothiers

OF

San Francisco.

SPECIALTIES.

PRICE AND GUARANTEE.

The largest and most varied stock of Gentlemen's Clothing, Furnishing Goods, Trunks, Bags and Valises, on the Pacific Coast. Every article sold, being of our own manufacture, is guaranteed. Having contracts direct with European and American manufacturers of piece goods, we thereby effect a saving of fully 50 per cent. in wholesale dealers' profits, and are thus able to offer superior goods at less than second-rate prices.

STYLES.

Having agents in London and Paris, we introduce the new styles in San Francisco simultaneously with their appearance in New York.

GOODS MADE TO ORDER.

For the accommodation of such as may desire, we have secured the services of a celebrated European cutter, and are prepared to make up piece goods in a style superior to any other house on the coast. Shirts, Ties, Collars, etc. made to order at short notice.

COUNTRY ORDERS.

Goods forwarded by Express to any part of the Pacific Coast on receipt of orders and measures; send for directions for measurement.

Heuston,
Hastings
& Co.,

Lick House Block,

San Francisco.

5v17-3m

MEUSSDORFFER,
HAT MANUFACTURER

And dealer in

Hats and Caps

AT WHOLESALE AND RETAIL.

635 and 637 Commercial street.....San Francisco.
125 J street.....Sacramento.
Corner of D and Second streets.....Marysville.
72 Front street.....Portland, Oregon.

Our wholesale House, 623 Commercial street, extending through to 637 Clay street, San Francisco, contains always a most choice, and the largest, assortment in this State. Every Steamer brings the latest issued novelties from Europe and New York, which can be found at all the above stores, at moderate prices. 23v16-3m

OIL STOVES!

MORRILL'S

Petroleum and Universal Oil Stoves

Have proved themselves a superior substitute for Wood and Coal Stoves, in that they work quicker, are neater, bake and broil better, are MORE ECONOMICAL generally. They are portable, can be used in any room, with or without chimney, as they emit no smoke, soot or ashes. There are nine different sizes, designed for barbers, dentists, and other mechanical purposes—as well as for cooking. They are perfectly safe.

I now offer a reward of **$100** for every Petroleum Stove exploded by Naphtha delivered at my store, 18 Geary street, where they are for sale by

M. B. BULLARD,
Proprietor of Petroleum Stove for California, and Agent for Universal Oil Stove for Pacific Coast.

N. B.—Petroleum Stoves burn Naphtha converted into a gas. Universal Oil Stoves burn Naphtha, Benzine, or Coal Oil, with non illuminating flame and light on a wick as easy as a lamp. 21v16-3m

Exposition of the Mineral Land Law.

AN INCORPORATED COMPANY TO BE DEEMED AN ARTIFICIAL PERSON—MAY FILE CLAIM AND RECEIVE PATENT—PROOF OF CITIZENSHIP REQUIRED.

DEPARTMENT OF THE INTERIOR, GENERAL LAND OFFICE, Sept. 1, 1868.

Register and Receiver U. S. Land Office, San Francisco, Cal.—GENTLEMEN.—In a letter of the 27th July last, Senators Conness, Stewart and Nye, called the attention of this office to a question that had been raised in regard to citizenship under the Mining Act of July 26, 1866, when application is made by corporations organized under State or Territorial laws.

It is an invariable principle in the preëmption and homestead laws of the United States, to limit the privileges conferred by said acts, to citizens or persons having declared their intention to become citizens; and the same policy is indicated in the 1st section of the Mining Act. The limitation to citizenship is not repeated in the 2d section, but would appear to be necessarily implied; for as the first section legalized only the occupancy of citizens and such persons as have declared their intentions, etc., and as occupancy must precede an application under the second section, it would seem to follow that if the occupancy of the applicant is not such as has been legalized by the statute it could have no standing in any proceedings under the Act. A proper rule of interpretation would seem to require us to consider the several sections together, and the whole as declaratory of one uniform and consistent policy. The principle of considering together all statutes in *pari materia* would warrant an examination of the rule established by Congress in other enactments for the disposal of the public domain, with a view of ascertaining the intention of the law-making power, when, in any one particular statute, it may not be clearly expressed. It would therefore be entirely too narrow a construction to hold that because the restriction was not repeated in the second section, the uniform policy of the Government for many years was intended to be set aside in the cases provided for in that section.

The foregoing remarks apply to applicants themselves in the character of individuals. In such cases the general principle must be adhered to, and proof of citizens must be furnished. This is the only class of applicants that can avail themselves of the benefits of the preëmption and homestead laws, corporations, as such, not being included in the class provided for in these acts.

But as corporations at the date of the mining act, and for a long time previously, had occupied and improved mining claims according to the local customs and rules of mines, and the right to apply for a patent, is by the terms of this act, extended to any person or *association of persons,* it would be unreasonable to suppose that they were intended to be excluded from the benefits of the law. To exclude corporations would be to deny the privileges of the act to all the most valuable and most extensive mining claims, and would entirely disappoint the expectations of the friends of the bill on its becoming a law. It is evident, therefore, that these bodies must be permitted to share in the benefits of the enactment.

But a corporation is "an artificial being, invisible, intangible, and existing only in contemplation of law. Being the mere creature of law it possesses only those properties which the charter of its creation confers upon it, either expressly or as incidental to its very existence." It can neither exercise the duties of citizenship, become naturalized or file a declaration of intention to become a citizen. The relations of citizenship or alienage cannot, therefore, properly speaking, be said to belong to a corporation at all. To look beyond the mere artificial entity, to the stockholders composing it, and require the citizenship of each one of a large number, scattered frequently through several States and Territories, to be established by proof in applications under the mining act, would involve such an amount of inconvenience and delay as practically to debar corporations from the privilege of making application at all.

The Supreme Court of the United States in giving effect to the Constitutional provisions allowing *citizens* of the State where the suit is brought, to be sued in the Circuit Courts of the United States, by *citizens* of another State, after a variety of decisions, has at last, in the case of the Louisville Railroad Company *vs.* Letson, 2 *Howard,* 555, decided a corporation, created by the laws of a State, performing its functions under the authority of that State and only suable there, though it may have members

out of that State, to be a *person*, though an artificial one, *inhabiting* and *belonging* to that State, and entitled for the purpose of suing and being sued, to be deemed a *citizen* of the State; and it is believed that an equally liberal construction should be adopted in reference to applications for mining patents, by corporations.

It is true that the question in these cases before the Supreme Court pertained to State citizenship, and that the question of alienage was not involved; but when the Court ceased to look beyond the mere artificial being to the natural persons composing it, it is doubtful whether the existence of aliens among the stockholders would produce any change in the rule that the Court has ultimately adopted. At all events the necessities of the mining law would seem to require that the rule should be carried to that extent in proceedings under it, and that every corporation created by the laws of a State or Territory, and legally competent to transact business as such corporation, and to acquire and hold real estate, in such State or Territory, in all applications for mining patents, made within such State or Territory, should be treated and considered as a citizen.

In this class of cases, therefore, you will require evidence of incorporation by the laws of the State or Territory in which the application is made. The usual proof of this is a certified copy of this charter or certificate of incorporation, under the signature and seal of the proper officer, and when this is furnished, proof of citizenship of the stockholders will be dispensed with.

Complaints have been made to this office of exorbitant charges made for filing affidavits to establish the mineral character of certain lands. No authority exists for this. The Act of 21 March, 1864, allows you 22½ cents per 100 words, for the testimony you may reduce to writing in preëmption and homestead cases, but no provision is made anywhere for charging any fee for the mere filing of an affidavit. As high as $1 and sometimes more, it is stated, has been charged for filing each affidavit. Such charges are entirely unauthorized. These affidavits are not in the nature of declaratory statements or home applications; they are merely for the purpose of furnishing the Land Department necessary information in reference to the character of the public lands, so that the proper action may be taken—that mineral lands may not be disposed of as agricultural, or *vice versa*. They are as much a matter of importance to the office as to the parties filing them; and the law authorizes no fee, unless the matter results in an examination or trial between conflicting claimants. These affidavits are useful also in testing the selections made by railroad companies, and preventing mineral lands from being selected; and you will carefully examine them before certifying to such tests.

Another point upon which it is deemed proper to advise you refere to the character of witnesses. The third section of the Act of Congress, approved July 2, 1864, removes the incompetency of a witness on the ground of being a party to or interested in the issue tried, in any Court of the United States; and you will be governed by the same rule in all trials held before and in taking *ex parte* affidavits.

The interest a witness may have in the subject matter of the suit, or to which the testimony pertains, is no longer an objection to his competency, but may, of course, be taken into consideration in deciding upon the weight of such evidence. Very respectfully, your obedient servant,

Jos. S. Wilson, Commissioner.

Chicago Iron Company in Wyoming. The Cheyenne *Leader* says the works of the Chicago Iron Company, which are nearly completed, will afford Wyoming an opportunity of cheaply and practically testing both the coal and the iron of that Territory. The iron to be used in those works will probably be of Lake Superior ore, but there is no coal in Illinois which can be used in smelting it. The coal is said to be of the best quality for smelting such ores, and a car load or two could be shipped to Chicago probably very low, as the Union Pacific Railroad Company would be interested in the experiment as well as others. The company expects to commence operations by the 15th of October, and think they can manufacture iron at from $5 to $7 per ton cheaper than it can be obtained from Pittsburg. The furnaces will be started with Pittsburg coke, and after they are under way they will experiment with the coal of other localities.

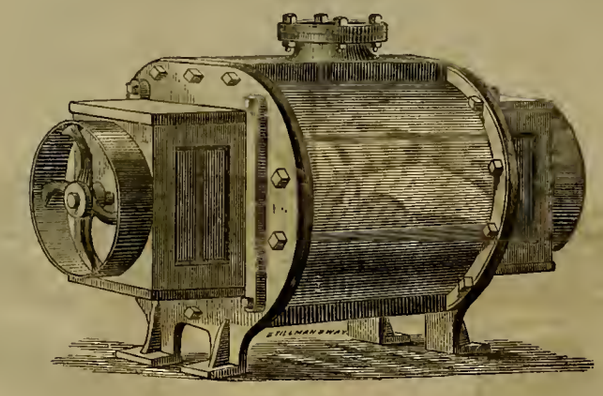
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Construction of the Mineral Land Law.

The passage in 1866 of what is known as the National Mineral Land Law, marks an era in the history of American mining, which is destined to terminate with the amendatory act that will undoubtedly pass the next Congress, extending unequivocally the provisions of the act for the sale of vein mines, so as to cover all permanent mines of whatever character, in accordance with the recent liberal constructions placed upon the same by the Commissioner of the Land Office, Legislation has advanced very cautiously on this subject, as was proper. Since nothing but good seems likely to result from the granting of fee simple titles to mining land, and as the very extensive gravel mining interests of this State were found to be universally favorable to the granting of titles for placer claims likewise, Mr. Wilson has availed himself of the indefinite signification amongst miners of the terms "vein" and "lode," to construe the law in accordance with the preferences of the class for whose benefit it was framed. Whether or not it was the intention of the authors of the act to embrace deep placer claims,—and there can be no doubt such was not their openly declared intention,—it cannot be denied that the varying nature of mineral deposits, between veins, fissures, fahlbands, stockwerks, (ore deposits in bunches and chimneys), and horizontal strata like the deposits of coal and frequently of iron, etc., which are undoubtedly intended to be included, left the door open, under the wording of the act, for the inclusion of other horizontal deposits, so long as they could be construed to come within the miner's signification of "vein" or "lode." The geological signification of these words happens to be a very different, and a very definite thing; but it does not seem certain by any means that the framers intended to use the word in its strict geological sense, for then they would have excluded coal, and most manganese, iron, and zinc mines, etc. In short, the Land Commissioner found himself left in a muddle under the act, the moment that he was called upon to distinguish between different kinds of deposits; and he has merely attempted to extricate himself by means of a liberal construction of the law.

The word "rock" geologically does not necessarily signify hard rock, but any kind of earthy deposit whatever, for there is no means of drawing the line of distinction; though it seems evident enough that the framers intended nothing but hard rock. But the words specifying "quartz, or other rock in place bearing gold, silver, cinnabar or copper," etc., could be construed to apply to the hard pyritiferous cement of many of the Nevada gravel claims, where the cement is frequently harder than the granite on which it lies, (as at San Juan,) without any undue stretch of the ordinary sense of the term.

We understand it to be the opinion of the U. S. Surveyor-General, the Hon. Sherman Day,—himself a miniug engineer and expert in regard to the use of mining and geological terms—that the act will legally and strictly apply to all deposits that are inclosed within walls or casings of sterile material, whether lying horizontal or standiug vertical, and that can be definitely located and distinctly traced in any particular direction. This would include the ancient river beds, or deep placers.

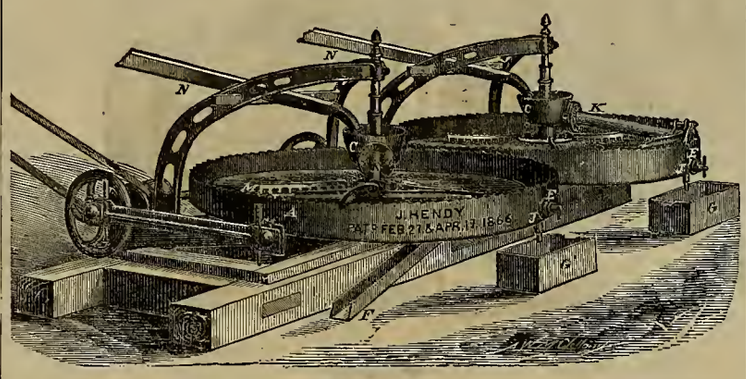
Miners may prefer not to bother about getting titles from the Government until it becomes a certainty that the officers of the Government possess the right to grant them. But as no one is opposed to Mr. Wilson's free construction of the Mineral Land Law, and as nobody would be likely to contest any title obtained under the present decision except Mr. Wilson's successors in the Land Office, there appears to be little in the way that should necessarily deter the owners of ancient river claims from obtaining Government titles if they desire them.

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Amount and value of flour from flouring mills	2,680,000
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Value of lumber, etc., from saw mills	4,200,000
Capital inv'd in breweries and distilleries (15)	125,000
Value, etc., from breweries and distilleries	240,000
Wagon and plow factories	65,000
Capital invested in manufacturing furniture	70,000
Value of manufactured furniture	90,000
Eight jewelers—capital invested	45,000
Value of manufactured jewelry	120,000
Two tanneries - capital	85,000
Value of manufactures from tanneries	85,000
Four harness and saddle manufacturers—capital	38,000
Value of manufactured harness and saddles	80,000
Three assayers and refiners of gold and silver—capital	45,000
Value of gold and silver r-fi'd and run into bars	8,640,000
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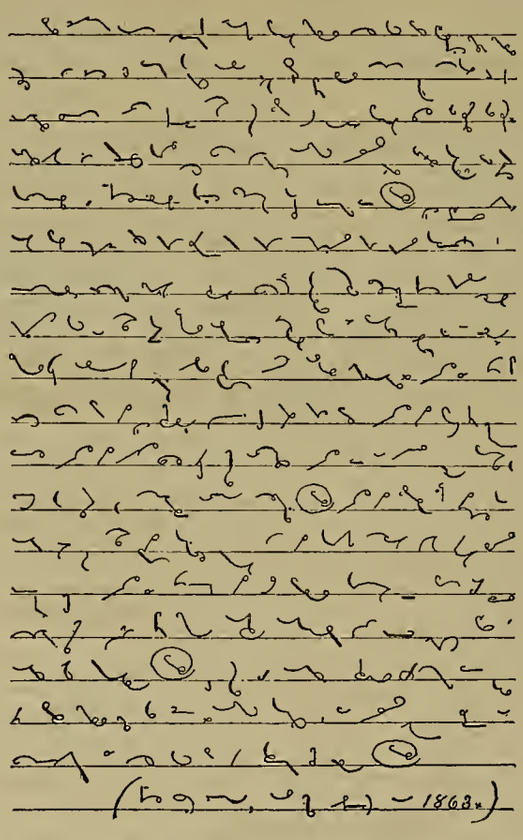
Advances in Phonetic Short-hand.

How many there are who, at some stage or other in life, have devoted themselves enthusiastically to the acquisition of that most natural and self-evident of all desiderata, the art of writing phonetic short-hand. Thought being the distinction of man above his fellow subjects in creation, we cannot but be reminded that it is very much like steam and electricity,—comparatively powerless, or only locally operative, until it is caught, and controlled for the accomplishment of a particular end. The history of writing, as it has advanced with the history of civilization, is one of the most interesting of subjects, especially when treated by an able lecturer, who can save one the mystification and abstruseness which are often encountered in the books. Short-hand has been presenting itself in the light of a desideratum to philosophers from ancient times, again and again; and dabblers in short-hand may console themselves with the reflection that they are all natural philosophers. In English, German, and French alike, stenographic systems have now been discarded, and phonographic ones substituted as the only kind of short-hand founded on scientific principles; but in no language or system have the natural sounds of the human voice been so much regarded as in Pitman Phonography, which is now the system universally used in reporting verbal proceedings.

We are glad to be able to chronicle a real step in advance, in the writing of phonetic short-hand. Great revolutions come gradually—continents do not rise above the ocean at a single swoop. Though Pitman's system was very meritorious, and very systematic, and beautiful, so that every bright boy looking over its pages would be seized with a desire to learn it, yet his dreams of a phonographic Utopia, when everybody would be writing "fly-tracks," were premature, and could not be expected to be realized. Two elements were wanting: ease of acquiring it so as to be able to follow a speaker, and legibility. Nothing but years of practice can make a reliable reporter, and a want of the opportunity or the inducement to benefit by such practice, furnishes the reason why so many old students of phonography have little left of short-hand but a few phonographic crotchets floating through the brain.

A number of Americans have labored enthusiastically to improve Pitman's system by methodizing and abbreviating it. Graham and Munson have published voluminuous works. They are destined to be superseded, we think, by the closer method, clearer analysis, more thorough canvassing, and laborious practical trial of all the possibilities of geometry, and of all conceivable combinations of the English language, which are displayed in Marsh's Manual of Phonetic Short-hand; the last pages of which have just been struck off at Eastman's, for Bancroft & Co., the publishers. "Who is Marsh?" asked one of Pelton's schoolboys of another, in the hearing of a friend. "Marsh is the great reporter," was the reply.

CALIFORNIA



Andrew J. Marsh is so well known in newspaper circles in New York and Washington, in California and Nevada, and in the legal fraternity of this State, as to need no further introduction. Our duty is to furnish some account of what he has done for the advancement of phonetic short-hand.

The accompanying plate, with the printed key below, will give an idea of the style, brevity and comparative features of Marsh's reporting, as taught in this book. Those who are in any degree acquainted with short-hand, will observe that Mr. Marsh has done away with a mass of unsystematic, complex, and contradictory material taught in most of the systems heretofore in use; such as the turning over of the f and v to write fr and vr, the initial w hook, the heavy nr and mr, the arbitrary h, in place of which he makes use of the old style mp, the dot word signs, etc. For an old phonographer it will be found quite a satisfaction to look through Marsh's book,—to see how every rule works as inevitably and unexceptionally as the law; so that nothing once learned will have to be unlearned. The number of ingenious and handy things for reportorial use, which Mr. Marsh has systematized, will disclose quite a mine, even to Eastern and English short-hand writers, who will little expect to see anything of this kind emanating from California. Amongst the principal advantages of Marsh's system, may be mentioned that it can be learned in less time, that it can be written more briefly and rapidly, and that when written it is more unmistakably legible than any other system. To which it is important to add, that though it differs in detail from Pitman, Graham, and Munson, there is nothing in it which, if adapted in whole or in part, would clash with any of them, except the words "were" and "are," written with the upward and downward r's respectively.

To contribute materially toward the development of a perfect system of writing is a modest labor which is by no means calculated to incite torchlight processions and nightly serenades in honor of the author; but none can fail to see what a profound influence upon the world a few centuries hence, the simplification and universalization of short-hand may exercise. To those who are interested in short-hand, or in any degree informed on the subject, the claim of Marsh's book to superiority over every other system will speak for itself.

[KEY TO PLATE.]

CALIFORNIA.—Suppose we were called upon to name on all the globe, to-day, the community of four hundred thousand persons most favorably placed, so far as domain, and prosperity, and prospects are concerned. Let a man turn the globe with compasses in his hand, and hold them suspended, and deliberate as long as he may, I defy him to fix the point at any other place than Sacramento—right here at Agricultural Hall—so that the sweep shall include the four hundred thousand souls within the jurisdiction of this Society. What other portion of the earth, held by one organization of less than half a million, will compare, in privilege, resources and hopes, with the portion of this young, beloved Benjamin of American States, whose autumn sack is now stuffed with grain, while the mouth of it contains a cup of gold? [Applause.] A line on the Atlantic coast, representing the length of our State, would run from Boston below Chesapeake Bay, below Cape Hatteras, below the batteries of Gilmore on Cummings Point, to the harbor of Port Royal. And nearly the whole of the area, with this vast water front, is one symmetrical domain, by reason of the mountains that uprear their five hundred miles of jagged whiteness in its back ground; the rivers that flow from the northward and the southward, fed from those snowy springs, to unite in the center of the State; and the bay that receives their volume, rivaling in its conformation the Bay of Naples. Where else has the Almighty delivered to half a million of people such a line of eternal snow, looking down upon such opulent plains? Where else such a fellowship of temperate and tropic climates? Where else such rainless summers, which turn drouths into harvests? Where else gold in the rocks, and, bending over the mills that crush them, peaches that mock the apples of gold in the garden of Hesperides? [Applause.] Where else such sweeps of wheat, such armies of noble cattle on a thousand hills, such bloom of vineyards, and, beneath all, such variety of mineral wealth, which only centuries to come can tap and drain? Where else has the Almighty connected such social blessings with material good—freedom, intelligence, schools, multiplying churches, and loyalty—deliberate-principled, unconditional, invincible loyalty to the Government, and the policy, the freest, the noblest, the worthiest beneath the sun? [Applause.] I do not say this, gentlemen, in boasting. It is only the honest generalization of the map of California, and of the facts which your exhibition presents to our eyes this week. In privilege of position, and in regard to resources, and the future, the State of California, in the American Republic, is the most favored spot which this globe turns to the sun. [Applause.]—*Thomas Starr King, in his address before the State Agricultural Society, in* 1863.

LOOK TO YOUR EYES.—If you will see C. Muller, 205 Montgomery street, you will doubtless be able to see better. *

Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Mining in Sierra County.

THE ALASKA QUARTZ MINE.

This quartz ledge, promising to become one of the richest gold mines on the Pacific Coast, is situated in Texas Ravine, six miles east of Camptouville, and runs from north-east to southwest along the north side of a raviue. It stands almost perpendicular, and is from four to six feet wide, in talcose slate, with very regular clay seams between the walls and ledge, affording very easy working vein matter. Until now it has been worked without blasting, not cropping out anywhere, but being covered with surface dirt, and having a reddish looking quartz; showing a considerable amount of suphurets, galena, and in some places native copper. In the richest places, there is much free gold, sometimes combined with small particles of native copper. So far as the ledge is worked, three chimneys of rich pay ore about 200 feet apart from each other, have become known. This ledge was first discovered in 1857 hy surface mining. The Texas Ravine paid very rich all the way up, and the gold taken out hy washing off the ground, paid over $100,000, being all quartz gold. As the miners came to the upper part of the ravine this ledge was discovered, and the pay of surface ground gave out as soon as the upper part of the ravine was reached. A camp was formed in 1858, and work was started on this ledge by sinking a shaft and building a mill of eight stamps. The company then took out about $20,000; but insufficient mill arrangements, discontent amongst the shareholders and other disturbances,—more common in former times than now,—broke up the company and caused the work to be stopped. Thus the property remained until last year, when a new company was formed under the management of Mr. McKean, of Camptonville, and finally this year work was again commenced in earnest hy starting a new shaft lower down from the former work. A new chimney of pay ore was struck, a prospecting mill of five stamps with steam engine of 15-horse power, was erected, for milling, hoisting and pumping. This was done under the able management of Mr. Phillip Clerkin, an old friend of miue, who is still employed as engineer at the works. The company sunk a shaft on the ledge to the depth of 146 feet, run drift on the ledge to southwest 90 feet, and to northwest 40 feet, and opened on the southwest drift stopes, now about 45 feet high, leaving a strong pillar on the side of the shaft. The quartz all the way down in the shaft was rich, hut in the southwest drift and the stopes it is exceedingly rich. I saw the books of the company, and can guarantee for the correctness of the following figures: The quartz from the upper part of the ledge paid $12 per ton, and coming lower down the quartz yielded $30, $55, $65, and $200 per ton. The books show that until now 316 tons of quartz were crushed, giving an average pay of $42.70 per ton. The company has not a dollar of indebtedness, and ahout $10,000 in the treasury. The quartz between the pay chimney and the old shaft towards the northeast, contains a pay of about $15 per ton. The northeast drift will in about 100 feet more reach the next pay chimney, and driftiug is followed up day and night. The quartz all through the miue is so soft that the work is done without blasting. Four miners supply the mill with quartz, hut it is only run in daytime. The ledge carries very little water. This ledge is undoubtedly a true fissure, and no pocket vein, as the gold is found all through the mine. As I was examining the mine, a letter was received from the assay office of Rhine & Hemme, San Francisco, giviug the results of an aasay of the sulphurets of the mine as $20.53 in silver and $226.02 in gold; =$246.55 per ton. The mill has no arrangements for the saving and working of sulphurets. The mining and mill expenses average about $1,000 per month. The facilities for water and wood are unlimited, and a good wagon road leads to the mine, hranching off from the Our House on the stage road between San Juan and Forest City. I am indebted to the kindness of the Treasurer of the company, Mr. McKean, and the Superintendent of the minc, Mr. Sterrett, for the opportunity of obtaining the items I desired from the books of the company.

CAMPTONVILLE.

The hydraulic mines will be worked out in the vicinity of this town in about two years; but Camptonville will still be a lively mining camp, as there is undoubtedly a rich belt of quartz veins situated around this place, and up to the Mountain House, about 10 miles from Camptonville. This fact is proved so far hy the rich Alaska quartz mine, and the very rich Brush Creek quartz mine near the Mountain House. Quartz miners' and speculators' attention should he directed to this favorable section of Sierra County, the more as this part of the county is always easily accessible in winter, very little snow falling here, never hindering the stage from running regularly to Marysville.

BROWNS' VALLEY MINES.

I cannot say much about the Brownsville mines, for the following reasons: The only worked mines are the Jefferson, Pennsylvania and Yuha, formerly Rattlesnake mine. The Jefferson is only prospecting, running the mill three days in a week. The Pennsylvania and Yuha are under the management of Mr. E. van Miller, a large owner in both mines, and the writer of the reports in the Marysville *Appeal*. Respectfully,

F. B. S.

Lecture on Chemical Geology.

[Delivered before the Fellows of the Chemical Society, London, February 20, 1868.]

BY DAVID FORBES, F.R.S., ETC.

[Continued from page 226.]

Knowing, therefore, that hut few, even of the metallic elements, possess (at the earth's surface) a density equal to that of either the nucleus or intermediate zone, as shown by such calculations, I infer, therefore, that it requires not only the assumption that hodies do become greatly augmented in density by the application of pressure, but also that there must he a great accumulation of the densest bodies we know (the heavy metals and their compounds) in the interior of the earth, in order to account for the high meau specific gravity of our globe.

The mineral and chemical composition of the original exterior, or crust, of the earth immediately after its solidification must ever he an open question in chemical geology, for neither do we, nor can we, even, expect to meet with any portion of the same in any part of the world, when we reflect upon the great changes it must have experienced during countless ages, and the vast amount of the *debris*, directly or indirectly the result of its wear and tear, which since has been spread over the surface of the globe by mechanical agency.

The conjectures I have ventured to form as to its probahle nature are based upon a study of the mineral and chemical composition of rocks, which, in the present state of geological science, are recognized as being the most ancient on the face of our globe; and as quartz enters into the composition of these as a most promiuent constituent, I, therefore, infer that it had been derived from the *debris* of the original crust.

It is necessary for me now to take into consideration any arguments which have been brought forward in opposition to the conclusion which I have thus arrived at.

In the first place, we have the assertion that the composition of the primitive crust would have excluded free silica. It might as well he advanced that the composition of cast iron would preclude the existence in it of free carhon. A very analagous example, and, therefore, I leave it to the Society to decide whether it is not as correct reasoning to infer by analogy that quartz may have crystallized out of a solution of silica iu highly acid silicates upon a lowering of temperature, as that the graphite in the specimen on the table before us has crystallized out of a solution of carhon in cast iron, upon its temperature heing lowered, which we know to he the fact.

But we have further proof of the contrary than merely reasoning from analogy, for, as is well known, the true volcanic lavas of both hemispheres contain abundance of free silica crystallized as quartz, and the study of the physical structure and crystallization of this quartz furnishes complete p oof that it could not have been mere entangled fragments of quartz, hut that it must necessarily have crystallized out of the melted mass of the rock.

Of late years another argument has been brought forward iu order to prove that rocks containing quartz could not have hecu of igneous origin; and this argument is based upon a study of the specific gravity of silica.

The specific gravity of hexagonally crystallized silica, *i. e.*, the mineral species, quartz, in many cases of undoubted aqueous origin, is found to be 2·6, and the quartz out of many granites is also found to he 2·6.

On the other hand, silica artificially fused before the oxyhydrogen hlowpipe to an amorphous glass, is found to possess a specific gravity of only 2·2.

On these few data the conclusion has been hased, that quartz could not have been formed by igneous agency, hut must invariably have heen au aqueous product.

Now let us examine the value of this evidence of the aqueous formatiou of quartz impartially, for it is a question of vital importauce iu the study of chemical geology.

In the first place, we find that the transparent, vitrified, amorphous product, or glass, produced by the fusion of crystallized or uncrystallized silica, before the oxyhydrogen hlowpipe, is not considered by the mineralogist as quartz at all; for it does not possess either the crystalliue characters, physical properties, or chemical behavior of the mineral species quartz.

The chemist further proves that its chemical reactions are totally different in very important points from those of crystallized silica; and would infer therefrom the probahility of silica heing dimorphous.

Further research informs us that the low specific gravity, chemical reactious, and physical properties of this vitrified product are not alone peculiar to the silica which has been fused before the oxyhydrogen hlowpipe, hut are common to other varieties of silica, hoth natural and artificial, whose origin could not havo heen from igneous fusion, as, for example the silica formed by the decomposition of gaseous compounds of silica or silicon; many varieties of silica from aqueous deposition; the silica of the carapaces of infusoria, etc.: facts which, if not considered as conclusive in totally invalidating, must at least create much douht as to the soundness of a conclusion thus hastily arrived at.

It seemed strange, however, that before so much importance has been attached to an argument so evidently inconclusive, the simple test of its correctness should not have heen resorted to, hy taking the specific gravity of some of the quartz crystals found in true volcanic lavas, where there could be no doubt as to their origin; as I could not discover that this had heen done hy other ohservers, I have done so myself, with the most conclusive results for the specific gravity of quartz crystals broken out of some of the volcanic trachytes of Europe and America, was found to he exactly 2·6, or the same as that of the quartz from granite, or from undoubted sedimentary rocks.

This result would have heen anticipated by the mineralogist, who regards hexagonally crystallized silica as quartz, whether it he of aqueous, igneous, or gasolytic origin.

Having thus treated at some length of the chemical reactions, which I have supposed had characterized what might he termed the cosmogenetic era in the history of our globe, a few words will now he devoted to the consideration of the physical structure and configuration of the earth at this epoch.

I assume that the cooling of the molten sphere ultimately resulted in the production of a globe in major part solid, yet containing in its interior a vast reservoir or reservoirs of still fluid igneous matter, which are still supposed to exist, although it is believed that the amount and character of their molten contents has varied considerahly from period to period in the earth's history.

This heing the case, it is quite immaterial to my views whether it is imagined that the earth commenced solidifyiug first at the center, or at the surface; I am inclined to the opinion, however, that even if the earth, as is considered probable, owing to the influence of pressure, actually did commence solidifying at the center, that ou the other hand, long hefore this solidificatiou had reached the exterior, a crust had also commenced forming at the exterior towards the center, owing to the effects of cooling, and that there thus might he at the same moment a solid nucleus and crust, separated from one another by still, liquid, igneous matter.

It has been advanced, however, that such a crust could not form, since it would be heavier than the molten matter from which it had congealed, and thoreforo would sink down into it.

It is admitted that silicates, when solid and cold, are slightly denser than when molten; hut as this crust would he formed in all parts simultaneously, by a cooling action, taking place uniformly on all sides, it would he a hollow sphere, capable fully of sustaining itself, since its particles would mutually support one another.

The results of experiments upon some bodies which contract iu cooling prove that the effect of heat in many, if not in all cases, was first to expand the previously cold substance more and more, up to about its point of fusion, when it again contracted in the act of becoming liquid, showing that although the cold substance really was heavier than when molten, that on the contrary the same hody expanded hy heat was actually lighter than when molten, and would float on the surface of the molten liquid just like ice upon water.

Applying this deduction, and remembering that the crust of the earth was not formed cold, hut, on the contrary, solidified at a very intense temperature, it becomes easy to explain hoth the probability of its formation and the possihility of its not sinking into the fluid matters helow it.

Upon the complete solidification of this crust over the entire exterior of the earth, it may he supposed that the surface of the sphere would in the first instance present a tolerably even appearance or contour; this uniformity would, however, soon become disturbed by cracks and fissures produced hy the contraction of the mass in cooling still further, and the subsidence of portions of the crust thus broken up may be conjectured to have caused some of the still melted matter below to he protruded upwards into these cracks and fissures, forming dykes iu the original crust.

[To be continued.]

SAFETY FOLDING DOOR FOR SHAFTS.—Daniel Grant, a carpenter at the Belcher mine, Gold Hill, has invented, with a view to insuring the safety of miners working about shafts, a contrivance consisting of folding doors or gates, which stand in front of the compartment, and are so arranged as to close of themselves; so that the doors are always closed except when the cage is in position. When the cage arrives at a station where the safety doors are placed, it presses against a spring ou either side of the shaft, and the doors are instantly opened to their full width, and remain open until the cage moves up or down. Had this simple contrivance heen in use in the Yellow Jacket mine, says the *Territorial Enterprise*, the last fatal accident there would have been prevented, as the unfortunate man could not have got into the shaft without first climhing over the doors. It is equally well adapted for use at the top of the shaft or at stations underground. Safety gates of the kind described above will shortly he put up at the Belcher mine.

AUSTRALIAN MINING STATISTICS.—During the past year there were 470 steam engines employed in Australia in alluvial mining, and 532 in quartz mining. The aggregate power is 20,000-horse, and the rated value ten millions of dollars. The export of gold for 1867 was nearly thirty millions, of which about five-eighths were from alluvial and three-eighths from quartz mines. The rated value of all the gold claims is thirty-seven and a half millions of dollars. The whole amount of gold raised from the first discovery of gold to January 1st, 1868, was six hundred and eighty million of dollars.

The entire gold field extends 350 miles east and west and 180 miles north and south. With regular supplies of water it is urged the gold product would be greatly increased. The government has undertaken to furnish ample water, by means of works on a grand scale, now under contract, and the calculation is that no mining ground shall be without plenty of cheap water at all seasons.

HAIR STRAIGHTENERS.—The Commissioner of Patents has received two applications for patent rights for "hair straighteners." For curling fluids there are many claims, hut what, it was asked, could he the object of uncurling? One preparation is of Iceland moss; the other is nitric acid. The examiners put hoth to the test, and found no uncurling effect. The object of hoth applications appears to be to get the sanction of letters patent in aid to the scheme to sell a worthless article to negroes. The "inventors expect them to buy with a rush a large quantity before the deception would be discovered—supposing that every one would he anxious to unkiuk the peculiar curls that hetray their race.

THE Sitka Ice Company intend to hnild a large ice-house this fall near the foot of Donner Lake. In the spring they intend to erect a commodious hotel near the same place.

WORK on the Yuba railroad hridge at Marysville, is delayed for want of piles.

Mechanical.

The Propulsion of Ships.—*Engineering* publishes a paper upon this subject,—recently read before the British Association by Charles W. Merrifield, F.R.S.,—in which he points out the fact, that in reality we know very little about the laws which govern the resistance offered to the progress of vessels in the water. He says:

"We do not know at the present moment at what rate and in what manner the water which follows an ordinary ship is travelling. Still less do we know the details of what takes place when that following water is taken hold of and driven backwards by a screw propeller, or diverted by a rudder. I do not think it is too much to say that the science of propulsion will henceforth be at a standstill until we shall have learnt this.

I believe I am justly summarizing all we at present know on the subject in the rough general statement, that, in giving increased velocity to a ship, we must, under the most favorable circumstances, expect to find the resistance increased *at least* in the ratio of the square of the velocity. That implies that a steamer consumes at least four times the quantity of coal per *knot*, and at least eight times the quantity of coal per hour, that she would do if driven at half speed, supposing her performance to be equally good in each case. But it is well known that a short ship cannot be driven at high speed without a higher expenditure than this. Professor Rankine adds terms depending on the theory of waves, and of stream lines. M. Dupuy de Lome uses a formula involving the square of the velocity, associated with other terms, one involving the cube, with a somewhat lower coefficient, and another involving a fractional power of the velocity. M. Dupuy de Lome's formula is avowedly tentative—empirical in its form. Professor Rankine's are, in his opinion, subject to great and imperfectly known limitations."

Mr. Merrifield goes on to say that the only way to arrive at some definite knowledge upon the subject, will be to make extended experiments, not with small models, but upon a large scale. He proposes to ask for a committee of the Association to advise upon the best means of bringing about that end; and in case that committee should agree with him, to memorialize the government upon the subject.

Economical Manufacture of Iron.—This subject has for some time past especially engaged the attention of English ironmasters. The immense waste of fuel has begun to alarm those who look to the future exhaustion of the coal mines; and the necessity of greater economy is earnestly urged. Various plans for furnaces constructed with this view have been described and are in use; but the "Radcliffe" process was spoken of by Mr. J. Jones, F. G. S., in a recent paper, as especially efficient. It has been in operation at the Consett Iron Works, Newcastle, for some time past. The puddled iron, which is usually rolled into rough bars, straightened and weighed, allowed to get cool, then cut up, piled, heated, rolled into bloom, reheated, and rolled into finished iron, after a complicated series of operations—is by the new method finished off by a continuous and simple process. Five or more puddled balls are put together into a large bloom, under a very heavy steam hammer, shingled down into a bloom, passed for a short time into a heating furnace, and rolled off into finished iron not more than half an hour after leaving the puddling furnace. It is estimated that a million and a half of tons of coal would be annually saved by the general adoption of this method.

Tungsten Steel.—Everyone knows that puddled steel, as generally manufactured, is not equal in quality to cast steel; nevertheless it is extensively used, in consequence of its comparative cheapness—for instance, in the manufacture of locomotive and wagon tires—it is said, however, to be four or five times less durable than cast steel. Ordinary puddled steel is also less adapted to the manufacture of files, saws, swords, edge tools, etc., since it does not possess the homogeneous texture, the tenacity, nor the hardness of cast steel. Now it is asserted that, by the use of wolfram, these superior properties can be imparted to puddled steel, so that its grain becomes as clear and fine as that of cast steel; and this by the mere addition of one to seven per cent., according to circumstances, of an alloy of iron manganese and tungsten, directly smelted from the wolfram ore for this purpose, or even by adding the crude ore in certain proportions to the iron in the puddling furnace. For wheel tires, two to three per cent. of tungsten alloy has been found to answer best in France; for files, saws, etc., two and a half to four per cent. is used, and for dies, punches, boxes, etc., four to seven and a half per cent. The theory of the action of tungsten upon steel is, of course, much more obscure than that of the action of manganese, which can scarcely yet be said to be entirely explained. If used for iron instead of steel, the proportion of tungsten alloy must never exceed two and a half per cent. of the entire metal, otherwise its hardness will be increased to a prejudicial extent; for cast iron rollers, however, it is recommended to use at least five per cent.—*Colliery Guardian.*

English Standard Weights and Measures.—The new microscopical apparatus constructed for the British Government, is said to be so exact that differences in length amounting only to the one-hundred-thousandth of an inch can be ascertained by a single direct measurement,—and much less differences than that by a computation of the mean of several measurements. *Engineering* says that, according to the recent report of the Warden of the Standards, the official standard yard was found to be about fifteen ten-thousandths of an inch less than the standard length. The same report has the following:

"The verification of the units of bullion weight has been based on the primary platinum standards, and it has involved the scientific comparison of standard weights differing in their densities. When weighed in air the apparent weight of a platinum standard pound is about .645 grains heavier than a brass or bronze standard pound; the true weight, their weight in a vacuum, being exactly equal; and no just comparison of such standard pounds can be made by weighing them in air without deducting the weight of air displaced by each. The result of these weighings and reductions of the primary platinum standards is that the relative weight of the imperial standard pound, which is an avoirdupois pound, and of the primary troy pound from which, with the aid of auxiliary platinum weights, the imperial standard was constructed, has been conclusively shown to be unaltered since 1845. It follows that the absolute weight of each of these platinum standards is also unchanged. The imperial standards of length and weight, the primary yard and pound, are deposited in the strong room of the basement in the building in the Tower, in an iron chest made by Messrs. Chubb."

Steel—the Siemens-Martin Process. Frederick Kohn, C. E., read a paper in reference to this process at the recent annual meeting of the British Association. Our readers will recollect the "Martin" process of which we have more than once spoken in the columns of the Press. The name at the head of this item is one which this process has received since it has come into use in England. By it, steel is made of a mixture of pig and wrought iron. The latter is added to the liquid pig iron at regular intervals, so that each following charge in melting increases the quantity of liquid mass, and adds to the dissolving power of the bath, until complete decarburization is arrived at. The charge is then completed by adding to the decarburized mass a certain percentage of pig iron, or of the well-known alloys of iron and manganese, and the degree of hardness or temper of the steel produced depends upon the proportion of this final addition. Referring to the question of how this new process is likely to affect the progress of the Bessemer system, of which it seemed to be a rival, Mr. Kohn said that in his opinion the only influence which it could have upon the Bessemer steel was to assist it, and widen the sphere of its application. The two processes, working with different classes of raw material, could never come into direct rivalry. When grey pig-iron of sufficient purity for direct conversion is used, the Bessemer process will of course be employed; but when the material is wrought iron, or pig iron which must be purified by puddling, this process will take its place. Old iron rails, etc., may in this way be worked up into steel. By utilizing the waste and offal of the Bessemer steel-works, the crop ends of steel rails and similar material, the new process will assist in cheapening the prime cost of Bessemer steel, in which the waste plays an important part.

Scientific Miscellany.

Fossil Plants—Darwinism.

At the annual meeting of the British Association for the Advancement of Science, held in August last, Dr. Hooker, the president of the year, in the course of his inaugural address referred to the difficulties under which the paleontologist labors in his floral researches. Most of the tertiary plants furnish no other material for their determination than their leaves,—and these in an imperfect condition. The leaves of plants are, at best, so variable as to be most unreliable guides towards establishing their structural character; and of their seeds and flowers, few traces are found in a fossil state. Boues and shells, on the other hand, afford more definite data for the determination of individuals belonging to the fossil fauna.

Dr. Hooker alluded to the twenty years' labor devoted by Mr. Darwin to careful and ingenious experimentation, before giving to the world his work on the origin of species; and in reference to his papers on the fertilization of plants, made use of the following language:

"It is impossible ever to enumerate the many important generalizations that have flowed from these and other papers of Mr. Darwin's; some that appear to be commonplace at first sight are really the most subtle, and, like many other apparent commonplaces, are what, somehow, never occur to commonplace minds; as, for instance, that plants with conspicuously colored flowers, or powerful odors, or honeyed secretions, are fertilized by insects;—all with inconspicuous flowers, and especially such as have pendulous anthers, or incoherent pollen, are fertilized by the wind; whence he infers that, before honey-feeding insects existed, the vegetation of our globe could not have been ornamented with bright-colored flowers, but consisted of such plants as pines, oaks, grapes, nettles, etc. * * * The result of his investigations places the whole subject in a totally new light before us. The guesses, crude observations, and abortive experiments that had disfigured the writings of previous observers are swept away; organs, structures, and functions, of which botanists had no previous knowledge, are revealed to them, and the whole is made clear. The value of these discoveries, which add whole chapters to the principles of botany, is not theoretical only; already the horticulturist and agriculturist have begun to ponder over them, and to recognize in the failure of certain crops the operation of laws that Mr. Darwin first laid down. What Faraday's discoveries are to telegraphy, Mr. Darwin's will assuredly prove to rural economy in its widest sense and most extended application."

In regard to the recent assertion made by the *Athenæum*, that Mr. Darwin's theory is rapidly declining in scientific favor, Dr. Hooker says: "So far from natural selection being a thing of the past, it is an accepted doctrine with every philosophical naturalist, including, it will always be understood, a considerable proportion not prepared to admit that it accounts for all Mr. Darwin assigns to it."

Ancient Traces of Man in the United States.—In our last issue, we noticed Mr. Foster's paper upon the antiquity of man in North America, read at the late meeting of the American Association for the Advancement of Science. We now copy from the *American Naturalist* the following data upon the subject, furnished by Col. Charles Whittlesey, who gave, at the meeting, an abstract of the evidences of such antiquity so far as collected:

1. Refuse shell-heaps of the Atlantic Coast, from Nova Scotia to Florida. Age not determined, but not very great. 2. Flint arrow-heads beneath Mr. Koch's skeleton of the mastodon in a peat layer, covered by alluvium fifteen feet deep, at Pomme de Terre river, Missouri. 3. A flint knife at Grinnel Leads, Kansas, found by P. A. Scott, at a depth of fourteen feet, in gravel and clay. 4. Three human skeletons of Indians, in a shelter cave at Elgin, Ohio; estimated age 2,000 years. 5. A log worn by the feet of man, probably Indians, in the muck bed at High Rock Spring, Saratoga Springs, N. Y., at a depth of nine feet beneath the cone, estimated by Dr. Grier to be 4,840 years old. 6. Copper spear-heads and other implements with human skeletons, apparently of the mound builders, at a depth of fourteen feet, at Brockville, Canada; found by Dr. J. Reynolds. 7. Several human skeletons in a cave near Louisville, Ky., with stone and flint implements; by J. N. Snowdon. 8. Pottery found by Dr. Holmes, associated with remains of the mastodon and megatherium, at Charleston, S. C. 9. A human jaw, teeth, and other bones, in quarternary conglomerate at Florida, estimated by Agassiz at 10,000 years. 10. Fire-hearths, found by C. Whittlesey, in the ancient alluvium of the Ohio, at Portsmouth, Ohio, at a depth of twenty feet, and beneath the works of the mound-builders. 11. Skeletons of Indians, reported by Dr. Dowler, of New Orleans, at a depth of sixteen feet in the alluvium, estimated by him at 50,000 years; by others as low as 15,000. 12. Portion of a pelvic bone of man, at Natchez, Miss., associated with the mastodon, megalonyx, and horse, supposed to be in the loess, but of doubtful authority. 13. Human skull and other relics, Calaveras County, Cal., at a depth of 150 feet in superficial materials, containing gold; reported by Prof. J. D. Whitney.

Combustion under Pressure.—At a recent meeting of the British Association for the Advancement of Science, Prof. Frankland read a paper upon this subject, in which, with the aid of certain experiments, he showed that the greater the atomic weight of bodies, the more luminous their flames when they were submitted to combustion by the electric spark. His attention was first directed to the matter by the noticing of the diminished illuminating power of candles at the summit of Mont Blanc, where the atmospheric pressure is comparatively slight. For a similar reason, if oxygen and hydrogen are inclosed in a soap-bubble or other light envelope, there is very little light produced; but if inclosed in a strong vessel and exploded by means of the electric spark, the light is ten times greater. Ignited gas gives light in proportion to its density.

Atom-mechanics Again.—We attempted, some months since, to give our readers some idea of the new atomic system of Prof. Hiurichs, of Iowa, in which *pantogen* is the single fundamental element, and *pan-atoms*, variously grouped, make up all chemical compounds. The last number of *Silliman's Journal* translates from the German a notice of the system, from the pen of Prof. Fleck, of Dresden. After showing that Prof. Hinrichs arbitrarily alters the formulæ "fixed by the most precise scientific labors" for the combining weights of the elements, in order to suit the figures which he has invented for the benefit of his hypothesis,—he concludes with the following remarks:

"While apparently based upon mathematical principles, Mr. Hiurichs' work dispenses with a mathematical basis; though furnished with an array of chemical atomic weights, these display no true scientific treatment; though adorned with physical phrases, correct ideas of the relations of space and force are entirely wanting. Science will consequently, have nothing to expect from Prof. Hinrichs' work in its present form, and like a still-born child it will be neither mourned nor missed. Every one who has seen from the above the weak foundation upon which the fantastic air-castle of this idea of pantogen is erected, will think it most advisable to be silent as to the further development of Prof. Hinrichs' monograph in the application and utilization of his ideas."

A Meteorite from Georgia.—Prof. C. U. Shepard notices, in *Silliman's Journal* for September, a meteorite in his possession which was plowed up in Cherokee County, Georgia, in April last. It is in the form of a human foot, is nearly black in color, and weighs six pounds and ten ounces. A thin slice weighing twenty-seven grammes was sawn from it and tested. The hardness was uniform; the specific gravity 7.52. It contained no sulphur, but abundance of nickel. The Professor says: "On being etched with dilute nitric acid, very beautiful Widmannstattian figures were presented, not quite identical with any with which I am acquainted, but most nearly resembling those of the Seneca Lake iron."

Work at the Foundries.

Great activity is observable at the Miners' Foundry. The machinery for a new poper mill in Santa Clara County, is in hand for King & Myers, who have selected as the locality, a place eight miles beyond the town of Santa Clara, near Saratoga. The mill is intended only for wrapping paper at present, but will be quite extensive. It will be run by two Hicks engines.

For two years past this foundry has been engaged in furnishing heavy iron castings for the State Capitol, and the work will continue for about two years longer. Every morning there are shipped to Sacramento, from four to ten tons of iron pillars, cappings, cornices, friezes, etc. Especially worthy of mention are the large capitals, which measure thirty-six feet in length, three feet in diameter at the top, and four feet at the bottom, being the largest castings os to dimensions that have ever been made in this State, so far as we are aware.

Five or six Hicks steam engines are also being built, for different parties; also one quartz mill for some point in the interior of Nevada; several very fine sugar mills have been sent within a short period to the Sandwich Islauds and Mexico; some heavy boilers have been made, etc.

Probably the most significant thing to be chronicled in this connection, is the fact that the Miners' Foundry people ore boldly competiog with the Eostern establishments in turning out such machinery as is required for wood manufacturing: small machines, frequently not costing more than $600 to $800, of every kind required in the country, such as planing and molding mochines, etc. These are sold at Easteru prices, or for whatever the Eastern mochines could be laid down for on San Fraucisco wharves. In heavy machinery, our works have long been successfully competing with Eastern manufacturers—for three or four years or more—but in regard to light machinery, the effort to rise has been experimental up to the present time. It is cloimed that we have now more average mechanical skill concentrated in our iron works than oan be usually shown in the East. There are many different nationalities represented in every San Francisco shop, and it is rather the rule than otherwise, that the individuals who find their way hither, are of the best capacity.

The ÆTNA WORKS have been engaged extensively on house work. Prominent amongst the orders now engaging attention, are the castings for the new theater on Bush street, and for Calvary Church on Geary street. Iron fronts for the extensiou of California Market, and for an engine house which is being built for the city on Folsom street, are also in hand. A sawmill engine of 20-inch bore and 24-inch stroke for Puget Sound, and another engiue of 12-inch bore and 24-inch stroke for a distillery at Antioch, are approaching completion. A lot of shafting and gearing is being mado for the Sen Marcial silver mine in Mexico, near Mazatlan. Quite a number of Carvalho's superheaters have been made lately, and are still continuing to be ordered, showiug that that invention is meeting the approvnl of engineers. Last week there were sent off eight of Varney's new improved amalgamating pans, and four settlers for the silver mine of Roberts, McNish & Co. in Lower Califoruia. On all kinds of general work, besides, tho foundry has for some time been kept very busy.

At the FULTON FOUNDRY they are making several steam engines for sawmills; the machinery for the manufacture of nsphaltum pipe, to be set up at Mr. Skinner's factory, at the Mission; an engine for a flour mill at Santa Clara; another for the new planing mill on Brannan street; and two more engines for Puget Sound. Lately there was sent off a 20-stamp quartz mill for the Casco mine, near Jackson, Amador County.

Mineral and Agricultural Land Titles.

RIGHTS OF MINERS AND FARMERS RESPECTIVELY DEFINED.

Like all the preceding documents from the Commissioner of the Laod Office touching miniog titles, the following will he found pertinent to the circumstances:

DEPARTMENT OF THE INTERIOR, GENERAL LAND OFFICE, Sept. 15, 1868.

George Stonehouse, Grass Valley, Nevada County, Cal.—SIR —Your letter to Senator Cole has been referred to this office, contoining your remarks about the effect of our "mineral instructioos" upon those connected with agricultural interests in California.

POLICY ADOPTED.

The miuers and farmers are so mutually dependent upon each other in California that considerations of interest alone should be sufficient to prevent any rivalry beyond that incident to the advancement of their respective interests. Without the miners the farmers of California would have but an indifferent market for their produce, and in the ohsence of the agricultural element, the necessaries of life could he ohtained only at exorbitant prices, impairing the welfare, not of the miners only, but of all classes. Hence, a community of interest should create a community of feeling, and all should alike strive to promote the lasting prosperity, the real glory of your truly wonderful State. The true policy of the United States, is as you remark, to sell all its public lands, farming ond mineral; and that is precisely what the Government is endeavoring to do through this office.

It has two classes of land, one *agricultural*, to be disposed of at the legal minimum per acre, under the preëmption, or for mainly a *labor* consideration under the Homestead Law; the others at $5 per ocre under the Miniug Statute; ond it is disposed of as rapidly as circumstances will allow.

FOR WHAT PURPOSE THE LAND IS MOST VALUABLE.

You speak of the hardships of permittiog miners to go upon land which agricultural settlers have bought, and dig up their orchards, gardens nud grass lands, nnd rob them of their titles. You do not state upon what class of lands such trespasses have been committed; whether upon mineral or farming lands; whether upon lands subject to settlement under the preëmption or homestead laws, or upon those subject to occupation only as mining lands.

If the land was bought from the United States, it is sufficient to say that no one, whether miner or another person, has a right to trespass upon it in that or any other way; nor can a settler be robbed of any title he has obtained from the United States. You probably have refereuce to the purchase of the *possessory* claim of a prior settler upon unsurveyed land; but, even then, the fact of having orchards on it as agricultural, would seem to imply that the settlement must have existed July 26, 1866, when the Mining Law was passed, and in that case, would be protected under the 10th section of that act, if the land is really agricultural and more valuable for farming than for mining purposes, no miner could legally disturb the settler in his possession.

The question to be determined is whether the land is more valuable for mining or for farming purposes. If the former, it helougs to the class called "Mineral Lauds," and is not subject to settlement as agricultural; and it would not be in the power of this office to protect snch a settler on it, for the reason that his settlement would not have the sanction of any statute. A settlement in California upon *surveyed* land, more valuable for farming than for miniug, is good under the 11th section of the Mining Act, and the settler may complete his title either under the preëmption or the homestead laws.

A settlement upon unsurveyed *agricultural* lands, made before July 26, 1866, is protected by the 10th section of the Mining Act, and the rights of the settler must he respected.

HOW TO SETTLE THE QUESTION.

When a questiou arises hetween a settler and a miner as to whether a particular tract of land is more valuable for farming or for mining, the farmer necessarily has the advantage of the miner in this, that before the latter can interfere with him, he must prove the laud to be more valuable for mining than for farming, a matter frequently impossible without expensive excavations, whilst, on the other hand, the farming qualities of the laud are found upon the *surface*, and are easily established.

The proof of mineral wealth can usually be furnished only at the expense of removing the surface, and if a miner does not wish to incur this expense, the agricultural settler cannot legally be disturhed, if he took the precaution not to make a settlement upon land palpably of mineral character even from surface indications.

The miuer's testimouy, also, must apply to every 40 acre tract; and if he fails as to any one of the four quarter quarter sections which a settler may take under the preëmption or homestead laws, the rights of the settler as to that remains untouched.

PROCEED PROPERLY.

It is believed, therefore, that if these settlers are careful, and select only such lands in the minerol regions as are by law subject to settlement for agricultural purposes, their rights cannot be seriously impaired. At all events, having the law on their side, they will be in a condition to enforce respect to them, and in all such cases may rely confidently upon whatever assistonce it is in the power of this office to render them.

Nearly or quite all the difficulties that occur in these respects come from a waut of compliance with the requirements of the law, through a want of attention, or a misconception as to the importance of looking well to these things before it is too late to correct the error without serious loss.

A settler may venture to make a settlement upon a tract of land, without any very definite intention of becoming permanently located; and hence may pay but little attention to the legal character of the laod settled upon, or whether it is by law subject to such settlement or not. Time passes on, and he may become pleased with the locality; property accumulates, and the evidences of thrift and industry multiply around him; but, sooner or later, some one finds out the original defect in his settlement. He now discovers that the tract of land was never open to settlement for the purposes of *agriculture*, and that there is no law upon the statute book to protect him. Here is undoubtedly a case of great hardship, but it is the direct result of not considering the subject properly at the right moment; of not reflecting whether the law was one way or the other; nnd of acting without any definite purpose in view as to whether his settlement would continue a month, a year or a lifetime.

IRREGULARITIES.

Where inattention and irregularities exist, difficulties and hardships must necessarily happen; and the wisest system of laws that the wit of mau ever framed could not prevent them.

I have thought best to answer your letter at length, with a view of convincing yourself and neighhors that it is the purpose of the law, as it certainly is of this office, to deal out eveu-handed justice to all classes of claimants, and in this way to further the important interests in issue whereby the immense resources of your great State may he developed, and individual and public prosperity advanced.

Very respectfully, your obedient servant,
JOS. S. WILSON, Commissioner.

HOW MUCH LAND MINERS CAN TAKE UP.

In view of the application of the terms of the Mineral Land Act to ancient river claims, the following, extracted from a Colorado paper, will be found treating of a question of importance:

DEPARTMENT OF THE INTERIOR, GENERAL LAND OFFICE, May 17, 1868.

B. M. Hughes, Esq., C. T.—SIR:—I have to acknowledge the receipt of your communication, dated April 27, 1867, desiring a construction of the act of Congress regulating claims to mines, etc., approved July 26, 1866. In regard to the number of persons required to constitute an "association" which, by the terms of the 4th section of the act of Congress as aforesaid, is authorized to take in any one claim *not more than* 3,000 feet. You further add that it is contended by some that to allow two or more persons forming an association to appropriate 3,000 feet while *one* individual can only take 200 feet, *two* persons 400 feet if singly, would violate the sense of the law, and in order to approximate the intention of the act of Congress it would seem that it would require say fourteen persons to form an associatiou mentioned in the law by implication.

In reply I have to say that the second proviso of the 4th section of the law is too positive and explicit, admitting, in the opiniou of this office, of no implication as to the number of persons required to constitute an association, for it directs that after the passage of the act of Congress, to wit: July 26, 1866, no person may make more than one location on the same lode, and not more than three thousand feet shall he taken in any one claim by *any* association of persons." Any association of persons comprehends two or more individuals, and although say two persons get 3,000 feet if located by them *since* the passage of the law of Congress, on one lode, they do not receive any benefit for the discovery of the lode, while a single locator is allowed by law 200 feet with an additional claim for discovery, together with a quantity of surface for the convenient working of the claim, as fixed by local rules, which latter benefit is not derived by the ossociation of persoos. Persons who think themselves aggrieved by the statutory discrimination iu favor of associations, are not precluded by the law of Congress from forming themselves into any associations and reaping the ndvantage conferred on the same over that bestowed on single locators.

I am very respectfully, your obedient servant,
JOS. S. WILSON, Com'r.

New Patents Issued to Pacific Coast Inventors.

pecially reported by the U. S. Patent Office, Washington, D. C., to NEWEY & Co., American and Foreign Patent Solicitors, and Publishers of the MINING AND SCIENTIFIC PRESS.

ISSUED FOR THE WEEK ENDING SEPTEMBER 29th, 1868.

82,495.—IMPROVEMENT IN LAMP BURNERS. Wm. R. Cronna, San Francisco, Cal.:

1. I claim the combinotion with the vose of the burner and its shortened wick tube, and the elevated deflector, of a combioed air flue and wick holder, with openiogs I, as described, and the sleeve or cop J, supported upon the upper part of said flue and wick holder, substantially as and for the purposes specified.

2. The combination with the combined air flne and wick holder, and the sleeve or cap J, of the perforated casing or jacket, by which the same nre surrounded, os and for the purposes set forth.

3. The method of attachiog the deflector and of securing it in positioo, by means of arms *a*, fitted into sockets formed on the hurner for their reception in the manner described.

82,528.—IMPROVEMENT IN THE CONSTRUCTION OF HORSE SHOES.—P. C. Johnson and Edwin Froggott, Central City, Col.:

We claim the arms h, d, nttached to or formed with the calks, and hent down into holes in the bottom or under side of the shoe to form a locking device, in combination with the screws *a*, substantially as shown and described.

82,538.—IMPROVEMENT IN STEAM PROPELLER PLOW AND CULTIVATOR.—John Marquis, San Francisco, Cal., assignor to self and Ole Bergerson, of same place. (Antedated Sept. 16th, 1868.)

1. I claim the construction and applicotion of the cutters c, c, c, in form similar to that of a screw, and having bits b, b, b, at the ends of the blades substantially as described for the purpose set forth.

2. The attachment of the said cutters or screws in n diagonal manner, to the rear portion of the frame at such an angle as to overcome the side draught, and impart to the said cutters in their rotation, a progressive tendency, substantially as described.

3. The bars or levers I, I, for raising and lowering the frame and cutters, and employing the axle as a fulcrum for that purpose, substantially as described.

The chief feature in this invention is the apparatus for cutting and pulverizing the soil, which consists of a series of screws, which, as they are revolved, slice the earth in a direction opposite to the line of trovel of the machine. The mechanism to which the cutters are attached is so arranged that when they come in contact with any obstruction they will immediately free themselves. The inventor also claims that the power required to propel his plow will he less than for other devices for the same purpose, as the screws, turning as they do, will aid in the propulsion.

TOO MUCH GREASE.—Just grease enough should be applied to the spindle of a wagoo to give it a coating; this is better than more, for the surplus put on will work out at the ends, aud he forced by the shoulder-hands and nut-washers into the hub around the outside of the hoxes. To oil an iron axle-tree, first wipe the spindle clean with a wet cloth with spirits of turpentine, ond then apply a few drops of castor oil near the shoulder and end. One teaspoonful is sufficient for the whole. Lard should never be used on n wagon, for it will penetrate the hub and work its way out nround tenons of the spokes, and spoil the wheel. Tallow is the best lubricator for wood axle-trees and castor oil for iron.

Weekly Stock Circular.

By Associated Brokers of the S F. Stock and Exchange Board.

San Francisco, October 17, 1868.

Mining Share Market.

In reference to the mining share market we have to report a rather active market for some descriptions of stock, but as a general thing stocks have declined from prices ruling at the opening of the week. We do not look for a much better market until after the close of the present exciting Presidential campaign.

Imperial—declined from $112 to $102 50, then sold at $106, and closed at $105. The main drift from shaft on the 900 level has been steadily carried forward. They have commenced to drift west out of winze at 50 feet below the 700 level of the Alta mine. On the 600 level, east body, the ore does not look quite so well as heretofore, but the west body continues to produce well. They take about 20 tons of ore per day from the 400 level, and this deposit is reported never to have looked better than it does now. Hoist about 140 tons per day. The receipts for October to the 13th amounted to $12,278, and for the quarter just closed, $189,592, against $175,421 the previous quarter of the present year.

Kentuck—steadily advanced from $254 to $286, and closed at $275. The receipts of bullion for the quarter ending September 30th aggregated $136,282, against $338,253 previous quarter, and $330,982 same time last year. For October account to the 12th instaut, the returns foot up $19,928.

Crown Point—receded from $45 to $40, improved to $43, and closed at $41. Nothing of special importance from the mine. Some good pay ore is said to have been found in the north drift from the main northeast drift. The ground has been opened so that they can keep the mill running for a long time. On the 16th instant the connection between the north and south drifts on the 900 level was made. Shaft going down in hard rock. Receipts of bullion for the quarter just closed, $322,414; previous quarter, $453,751, and same time in 1867, $223,335.

Chollar Potosi—has been somewhat more active, declining from $155 to $140, and closing at $140. During the week ending October 9th, 959½ tons of ore were extracted from the new Blue Wing "country." The sinking of the incline has been temporarily stopped, for the purpose of adding more rope to the hoisting machinery. The north drift on the lower level is now 305 feet from the incline. During the quarter just closed the bullion receipts amounted to $262,035, against $188,078 previous quarter, and $913,681 same time 1867.

Confidence—shows a yield of $50,499 in bullion during the months of July, August and September, against $10,142 during the same quarter in 1867.....Empire produced $59,947 during the quarter ending September 30th, 1868; previous quarter, $55,260, and same time, 1867, $67,-235....Gould & Curry shows a bullion yield of $14,954 for the quarter just closed, against $105,886 same time in 1867, and $377,216 in 1866.

Hale & Norcross—declined from $49 50 to $13 50, and closed at $44. Nothing of importance from the mine. An assessment of $10 per share was levied on the 12th instant. Bullion receipts in July, August and September, $51,098, against $330,263 same months in 1867.....Gold Hill Quartz yielded bullion amounting to $28,-953 in July, August and September of the present year; same time in 1867 the product amounted to $23,281.....Overman yielded $66,415 in bullion during the quarter ending with September last.....Segregated Belcher exhibits a yield of $4,371 in July. So far in October $1,900 were received, and further shipments will soon be made....Sierra Nevada shows a bullion yield of $4,542 in September. On the 3d instant $2,183 were received, with further shipments soon to come forward.

Savage—sold to a very large extent during the week under review, nearly 10,000 shares having changed hands, declining from $110 50 to $83 50, rising to $93 60, and closing at $87. Bullion product in July, August and September, 1868, $606,929; same time 1867, $1,094,940.... Belcher levied as assessment of $25 per share on the 5th instant.

City Stocks.

The market for miscellaneous securities is quite inactive, Board transactions being confined to mining stocks. Spring Valley stock sold at $66, and San Francisco Gas at $77 25@77. The home insurance companies have very generally disbursed dividends for the quarter ending with September last, and to those already enumerated we add the following: San Francisco Insurance Co., which is now winding up its business, 2½ per cent. per month, or $7 50 per share, for the quarter just closed. The California Insurance Co. 2 per cent. per month, or $6 per share for the same period, carrying over a surplus of about $95,000 after paying the dividend; and the Fireman's Fund Insurance Co., 1 per cent. per month, or $3 per share. The Omnibus and North Beach and Mission Railroad Companies each disbursed their monthly dividend of ½ per cent. The Bank of California paid its usual monthly dividend of 1 per cent. on the 15th instant.

The Directors of the California Steam Navigation Co., says a local paper, "met on the morning of the 13th instant, and ordered the payment of the usual monthly dividend on the 15th. A resolution was adopted instructing the officers of the company to take immediate steps for the construction of two fast passenger boats for a day service between San Francisco and Sacramento. Also for the construction of a new boat, passenger and freight, for the Stockton route. It was also resolved that in view of this expenditure, it was the sense of the Directors to discontinue the payment of dividends for the future. This resolution does not affect the dividend announced above. The idea of the Directors appears to be to build two light draft boats, capable of making the trip in from five to six hours. These boats could be used for passengers and for day service only, and would not have the heavy decks and upper works necessary to accommodate freight and afford sleeping accommodations. They will therefore draw very little water, and will not be subject to detention. It is intended that one boat should leave San Francisco and the other Sacramento, early in the morning, and give travelers the same time in either city that the California and Pacific Railroad trains will. It is thought the saving of the transhipment at Vallejo will counterbalance the advantage of the railroad. A new boat has long been wanted on the Stockton route. The growing importance of the place imperatively demands better facilities than are now given by the Navigation Company."

We call the attention of the reader to the annexed table, the same being our usual quarterly statement relative to most of the stocks dealt in at the Board. With the exception of the Yellow Jacket Company, it is very complete. That company, during the fiscal year ending June 30th, produced $680,000 in bullion, of which no account is given in our table, for the reason that we have been unable to obtain the monthly yield from time to time. Taking the above amount as a basis, we find a bullion product for said company of about $60,000 per month.

The following mining companies, for want of space, have not been included in the statement published herewith: Dividends—North Star, (Cal.) in June $15,000, in July $15,000, in August $15,000; Bacon, in June $8,000; Golden Rule, (Cal.) in June $1,500, in July $1,500; Eureka, (Cal.) in August $30,000—total, $60,000. Assessments—Julia, in April $5,000, in August $3,000; United States, in April $12,000, in May $4,000, in June $4,000; Union, in June $6,000—total, $34,000.

Company.	JULY. Highest Price.	JULY. Lowest Price.	JULY. Bullion.	JULY. Assessment.	JULY. Dividend.	AUGUST. Highest Price.	AUGUST. Lowest Price.	AUGUST. Bullion.	AUGUST. Assessment.	AUGUST. Dividend.	SEPTEMBER. Highest Price.	SEPTEMBER. Lowest Price.	SEPTEMBER. Bullion.	SEPTEMBER. Assessment.	SEPTEMBER. Dividend.
Alpha	$ 50	$ 30	$ 30,000			$ 50	$ 30	$ 30,000			$ 50	$ 30	$ 30,000		
Belcher	200	110	90,000			185	110	75,000			150	110	60,000		
Bullion	30	20	20,000			30	20	20,000			30	20	20,000		
Crown Point	90	60	60,000			90	60	60,000			60	40	40,000		
Confidence	250	125	$145,923			250	125	$122,000			150	90	$90,000		
Chollar-Potosi	300	140	80,439			300	140	97,693			200	140	3,750		
Daney	8	3				6	3				6	5			
Exchequer	150	17	20,493			150	17	8,545			150	17	20,000		
Empire M. & M. Co	100	50	19,980			100	50	8,545			100	50	8,545		
Gould & Curry	150	84	69,433			150	84	69,433			150	84	69,433		
Hale & Norcross	68	28				68	28				68	28			
Imperial	125	90	138,980			125	90	138,980			125	90	138,980		
Justice and Independent	30	3				30	3				30	3			
Kentuck	50	17	30,000			50	17	30,000			50	17	30,000		
Mexican	8	3	5,415			8	3	5,415			8	3	5,415		
Ophir	275	125	270,750			300	125	80,439			300	125	80,439		
Overman	14	3				14	3				14	3			
Segregated Belcher	82	50				82	50				82	50			
Sierra Nevada	50	17	30,000			50	17	30,000			50	17	30,000		
Savage	250	125	150,000			250	125	150,000			250	125	150,000		
Union	3	3				3	3				3	3			
Yellow Jacket	150	90	90,000			150	90	90,000			150	90	90,000		
Amador, (Cal.)	138	68				138	68				138	68			
Total in 1868	$1,345 00	$ 208 00	$ 811,424	$ 287,000	$ 90,000	$ 1,400 00	$ 262 50	$ 1,305,519	$ 75,000	$ 154,000	$ 1,463 00	$ 257 50	$ 1,171,327	$ 300,000	$ 174,000
Total in 1867	1,345 00	208 00	334,116	80,000	154,000	1,400 00	262 50	1,305,519	75,000	154,000	1,463 00	257 50	1,171,327	300,000	174,000
Total in 1866	1,345 00	212 50	598,695	80,000	154,000	1,400 00	217 50	1,106,896	75,000	154,000	1,005 00	217 50	1,054,011	300,000	174,000

The sales in the San Francisco Stock and Exchange Board during the past week have been as follows: Open sessions, $601,297; Regular sessions, $2,083,500—total, $2,684,837.

San Francisco Prices of Copper Ores.

San Francisco, Oct. 16, 1868.

We give the following as an approximate price at which copper ores can now be sold in this city. There is no sale for ores which assay less than 12 per cent. The late reduction in price is on account of the advance of freight:

		Per ton.			Per ton.
12	per cent. ore	$16 00	22	per cent. ore	$43 56
13	" "	18 62	23	" "	46 45
14	" "	21 20	24	" "	49 33
15	" "	23 85	25	" "	52 22
16	" "	26 25	26	" "	55 11
17	" "	29 12	27	" "	58 00
18	" "	29 91	28	" "	60 80
19	" "	34 90	29	" "	63 77
20	" "	37 78	30	" "	66 66
21	" "	40 67	31	" "	89 55

These prices, we believe, will be found substantially correct, and can be realized at this date.

Electrotype Cuts, Engravings, Etc.—Our Job Printing Office is abundantly supplied with elegant engravings, ornaments, and other embellishments to suit the various branches of industry in this State.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every Issue, from Advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

Name, Location, Amount, and Date of Assessment.	Day Delinquent.	Day of Sale.
Alameda Coal, Sept. 17, 50c		Oct. 27—Nov. 16
Amador Co., dividend, $5 per share		Payable Sept. 19, 1868
Bunker Hill, Amador co., May 19, $10	Oct. 6	Oct. 26*
Bullion, Aug. 19, $10		Payable immediately
Bacon, Storey co., Nev., div		Payable June 19, 1868
Belcher, Storey co., Nev., Oct. 6, $25	Nov. 6	Dec. 3
Belcher, Storey co., Nev		Meeting, Nov. 1
Badger Hill & C. G. Co		Meeting, Nov. 7
Cordillera, Mex., Oct. 16, $1		Nov. 18—Dec. 7*
Chollar-Potosi, div., $25		Payable Oct. 15, 1867
Chimonema, Mexico, Sept. 7, $5		Oct. 9—Oct. 26*
Crown Point, dividend, $7.50		Payable Sept. 12, 1868
Cherokee Flat, Butte Co., Sept. 2, $5		Oct. 5—Oct. 19
Daney, Storey co., Nev		Special Meeting, Oct 19
Diamond, Del Norte co., Feb. 4, $2		Oct. 7—Oct. 26*
Enterprise, Meadow Lake, Aug. 28, $1		Sept. 30—Oct. 17
Folsom St. & Ft. Pt. R. R., Sept. 11, $5		Oct. 13—Oct. 28
Empire M. & M., Nev., dividend $6		Payable May 15, 1867
Eureka, div. $7.50		Payable Aug., 1868
El Taste, Sonora, Mexico		Meeting, Oct. 19
Gould & Curry, div., $7.50		Payable May 15, 1867
Gold Hill Q M & M—dividend, $7 50		Payable July 15, 1868
Golden Rule, Tuolumne co, div 50c ₱ sh		Payable Aug. 23*
Great Central, Arizona, Oct. 9, $2.50		Nov. 11—Dec. 3*
Gold Hill Tun., Storey co., Nev, Oct. 9, $2		Nov. 18—Dec. 9*
Glenwood Mill, El Dorado co., Oct. 10, $50		Nov. 20—Dec. 9*
Hope Gravel, Nevada co., Oct. 5, $1		Nov 10—Nov. 30*
Hale & Norcross, div. $125		Sept. 16, 1867
Hale & Norcross, Virginia, Oct. 12, $10		Nov. 14—Dec. 5
Imperial, Storey co., Nev., div		Payable June 20, 1868
Julia, Storey co., Aug. 24, $1.50		Sept. 28—Oct. 17
Kentuck, div., $20 per share		Payable Oct. 10, 1868
Kearsarge, Inyo co., Sept. 18, $1		Oct. 22—Nov. 10*
Morning Star, Alpine co., Sept. 25, $2.50		Nov. 2—Nov. 21
Maxwell		Meeting Oct. 22
North Star, dividend, $5		Payable Aug. 15, 1868
N. A. Wood Preserving Co., Sept. 3, 50c		Oct. 5—Oct. 27*
Providence, Nevada co., Sept. 11, $2		Oct. 17—Nov. 5*
Pacific Unassessable, div		Payable June 18, 1868
Pacific Coal, Sept. 19, $12.50		Oct. 29—Nov. 18
Rising Star, Idaho		Meeting, Nov. 2
Rattlesnake, Yuba co., Oct. 13, $2		Nov. 18—Dec. 7*
Rising Star, Idaho, Sept. 11, $7.50		Oct. 24—Nov. 25
Savage, Virginia, Nev, dividend, $5		Payable Oct. 10, 1868
Sierra Nev., Storey co., Nev., Sept 25, $10		Oct. 27—Nov. 14
Segregated Belcher		Annual Meeting Oct. 6
Silver Sprout, Inyo co., Aug. 4, $30		Sept. 4—Oct. 21*
Santiago, Silver City, dividend		Payable Sept. 10, 1868
Sand Spring Salt, dividend $1		Payable June 5, 1868
Tallulah		Annual Meeting Oct. 20
Virginia & G. H. Water Co		Dividend, payable May 15
Washington, Nevada County		Annual Meeting, Nov. 3*
Yellow Jacket, div., $75		Payable July 10, 1867

Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. Stock and Exchange Board.

Friday Evening, Oct. 16, 1868.

Miscellaneous Stocks.	Bid.	Askd.
United States Bonds, 5 20s	$ 73	90
Legal Tender Notes	74	74½
California State Bonds, 7s, 1857	95	95
San Francisco Bonds, 10s, 1851	par & int.	
San Francisco City Bonds, 8s, 1855	—	—
San Francisco School Bonds, 10s, 1860	100	—
San Francisco School Bonds, 10s, 1861	par & int.	
San Francisco City and County Bonds, 8s, 1858	85	90
San Francisco City and Co. Sch't B'ds, 7s, 1866	90	—
San Francisco City and Co. Bonds, 7s, 1864	90	91
San Francisco City and Co. Bonds, 7s, 1864	90	—
San Francisco City and Co Bonds, 7s, 1865	90	—
San Francisco City and Co. Jud. Bds, 7s, 1863	90	—
San Francisco City and Co. Judg. Bds, 7s, 1864	90	—
Sacramento City Bonds	23	25
Sacramento County Bonds, 6s	70	73
Marysville Bonds, 10s	75	80
Stockton City Bonds	60	70
Yuba County Bonds, 7s	77	78
Santa Clara County Bonds, 7s	75	77
Butte County Bonds, 10s, 1860	70	75
San Mateo County Bonds, 7s	75	80
California Steam Navigation Co	68	70
Spring Valley Water Co	65	66
State Telegraph Co	25	29
Gas Companies.		
San Francisco Gas Co	77	78
Sacramento Gas Co	—	75
Railroads.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	70	—
Central Railroad	56	58
North Beach and Mission Railroad	70	72
Front Street, Mission and Ocean Railroad	17	21
Banking Institutions.		
California, Loan and Savings Society	—	—
Pacific Bank	97½	100
The Bank of California	137	138
Insurance Companies.		
Firemans' Fund Insurance Co	92½	94
Pacific Insurance Co	122½	125
San Francisco Insurance Co	—	105
Merchants' Mutual Marine Insurance Co	500	525
California Insurance Co	1300	1400
Union Insurance Co	92	93
California Home Insurance Co	19	—
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	72	—
National Insurance Co	72	—
Builders' Insurance Co	—	—
Mining Stocks—Washoe District.		
Alpha	41	42
Baltimore Americau	—	—
Belcher	135	140
Bullion, G. H.	14	—
Crown Point	41	42
Confidence	25	30
Chollar-Potosi	140	140
Daney	5½	6
Exchequer	15	16
Empire Mill and Mining Co	100	—
Gould & Curry	90	95
Gold Hill Quartz	46	60
Hale & Norcross	44	—
Imperial	105	106
Kentuck	275	278
Lady Bryan	12½	13
Ophir	17½	19
Overman	82½	84
Savage	87	87½
Sierra Nevada	19	19½
Yellow Jacket	1415	1420
Golden Rule, California	7½	10

San Francisco Market Rates.

Wholesale Prices.

Friday, Oct. 16, 1868.

Flour, Extra, ₱ bbl	$5 75	@$6 25
Do. Superfine	5 00	@ 5 25
Corn Meal, ₱ 100 lbs	3 25	@ 3 50
Wheat, ₱ 100 lbs	1 65	@ 1 80
Oats, ₱ 100 lbs	1 75	@ 2 15
Barley, ₱ 100 lbs	2 00	@ 2 25
Beans, ₱ 100 lbs	3 00	@ 4 00
Potatoes, ₱ 100 lbs	1 00	@ 1 25
Hay, ₱ ton	10 00	@15 00
Live Oak Wood, ₱ cord	9 00	@10 00
Beef, extra, dressed, ₱ lb	8	@ 10
Sheep, on foot	3 00	@ 3 25
Hogs, on foot, ₱ lb	5	@ 6
Hogs, dressed, ₱ lb	8	@ 9
Groceries, etc.		
Sugar, crushed, ₱ lb	15	@ 15½
Do China	10	@ 11½
Coffee, Costa Rica, ₱ lb	16	@ 16½
Do. Rio	—	@ 17
Tea, Japan, ₱ lb	75	@ 90
Do Green	60	@ 1 25
Hawaiian Rice, ₱ lb	8	@ 10
China Rice, ₱ lb	6	@ 6¾
Coal Oil, ₱ gallon	35	@ 40
Candles, ₱ lb	15	@ 17
Ranch Butter, ₱ lb	50	@ 60
Isthmus Butter, ₱ lb	30	@ 37½
Cheese, California, ₱ lb	15	@ 18
Eggs, ₱ dozen	60	@ 62
Lard, ₱ lb	13	@ 14
Ham and Bacon, ₱ lb	14	@ 18
Shoulders, ₱ lb	6	@ 8
Retail Prices.		
Butter, California, fresh, ₱ lb	60	@ 75
do. pickled, ₱ lb	30	@ 40
do. Oregon, ₱ lb	15	@ 25
do. New York, ₱ lb	35	@ 40
Cheese, ₱ lb	20	@ 25
Honey, ₱ lb	25	@ 30
Eggs, ₱ dozen	—	@ 75
Lard, ₱ lb	15	@ 17
Hams and Bacon, ₱ lb	20	@ 25
Cranberries, ₱ gallon	85	@ 1 00
Potatoes, ₱ lb	2	@ 3
Potatoes, Sweet, ₱ lb	3	@ 5
Tomatoes, ₱ lb	3	@ 5
Onions, ₱ lb	3	@ 5
Apples, No. 1, ₱ lb	4	@ 6
Pears, Table, ₱ lb	5	@ 7
Plums, dried, ₱ lb	11	@ 13
Peaches, dried, ₱ lb	—	@ —
Oranges, ₱ dozen	75	@ 1 00
Lemons, ₱ dozen	1 00	@ 1 50
Chickens, apiece	50	@ 75
Turkeys, ₱ lb	20	@ 25
Soap, Pale and C. O	7	@ 12
Soap, Castile, ₱ lb	15½	@ 16

San Francisco Metal Market.

Prices for Invoices.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

Friday, Oct. 16, 1868.

Iron.—Duly: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar, 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1¼c ₱ lb; Pipe, 1¾c ₱ lb; Galvanized, 2½ c ₱ lb.

Scotch and English Pig Iron ₱ ton	$33 00	@$34 00
White Pig ₱ ton	33 00	@ 34 00
Refined Bar, bad assortment ₱ lb	— 03	@ — —
Refined Bar, good assortment, ₱ lb	— 04	@ — —
Boiler, No. 1 to 4	— 04¼	@ — 5
Plate, No. 5 to 9	— —	@ — 04½
Sheet, No. 10 to 13	— 04½	@ — 5
Sheet, No. 14 to 29	— 05	@ — 5¼
Sheet, No. 24 to 27	— 05	@ — 6½

Copper.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb

Sheathing, ₱ lb	— 28	@ — 26
Sheathing, Yellow	— —	@ — 22
Sheathing, Old Yellow	— 11	@ — —
Bolts	— 21	@ — 22
Composition Nails	— 21	@ — 22

Tin Plates.—Duty: 25 ₱ cent. ad valorem.

Plates, Charcoal, IX, ₱ box	12 00	@ — —
Plates, I C Charcoal	— —	@ 11 00
Roofing Plates	10 00	@ 10 50
Banca Tin, Slabs, ₱ lb	— —	@ — 30

Steel.—English Cast Steel, ₱ lb — — @ — 15

Quicksilver.—₱ lb — 55 @ — 60

Lead.—Pig, ₱ lb — 7½ @ — 8

Sheet	— 10	@ — —
Pipe	— 11	@ — —
Bar	— 9	@ — 9½

Zinc—Sheets, ₱ lb — 9 @ — 9¼

Borax.—California, ₱ lb — 29 @ — 23

Trial of the Giant Powder.—Some experiments were made with the new Giant Powder on Tuesday last, at Messrs. Bandman & Neilson's works, about six miles south of this city, in the presence of a committee of the Mechanics' Institute, Capt. H. J. Pippy, J. J. Haley, D. R. Coleman, and other parties interested; A. K. Grim, D. Van Bokkelen, several mining specialists from the mountains, officers of the army, etc. 1. An 8-inch cartridge, weighing three-quarters of a pound, was placed one foot under water; it blew out a rock 2x2x8 inches in dimensions. 2. A hole was made into a bank one and a half inches in diameter and five feet deep, and loaded with ten ounces of powder; the result was an opening the size of a hogshead, eight feet deep. 3. A blast hole was drilled into a loose rock fourteen inches deep, and charged with two ounces of powder; the rock was 4x4x3 feet in dimensions, and was torn into small atoms. 4. Four ounces were placed under a ledge of rock; a hole was torn in the ground two feet deep. 5. Three-fourths of a pound was placed on the surface of a large boulder; the boulder was so cracked and shattered that with an axe it could be easily knocked to pieces. 6. A two and a half pound box of the powder was put into the fire, and burnt without explosion. 7. Two ounces were placed on the surface of a protruding flat shaly rock, which was blown to fragments, to a depth of two feet.

The committee expressed a desire to have witnessed the comparative effect with other powder, or at least a large blast in rock. It is hoped that before these experiments are done with there will be a fair test made of the different powders under identical circumstances and at the same time.

Continental Life Insurance Company, 302 Montgomery street, corner of Pine.

Mining Summary.

THE following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County.

Chronicle, Oct. 3d: The time has come when the Rippon mine shows itself to be worthy of a more extended notice than we have heretofore given it. It is worked by a tunnel 502 feet in length. The indications or croppings are what mineralogists call felspathic quartz, and are of great extent, being 500 or 600 ft. in width; assays of which have been often made, and found to contain both gold and silver. At about 480 ft., quartz, having every appearance of containing silver, was struck. Several parcels of this were assayed in San Francisco and found to contain gold and silver from $16 to $40 per ton. As they progressed with the tunnel the quartz assumed a better character, with less interruption of country rock, and at a distance of about seven ft. the country rock entirely disappeared, appearing to be all silver bearing quartz with occasional clay seams. About 10 days since two shifts were put to work, and the Superintendent commenced saving ore; but suddenly a barren rock appeared, supposed, at the time, to be either the west wall or a horse. Drifting to the right it was found to be a horse, which being removed, better ore than ever was found. If the extent of the lode be judged by the width of the croppings, it will be from 500 to 600 feet wide; and if it is a fissure vein (there is now every appearance of it being such) it would not be strange if it even exceeds this, for there are many silver mines of greater width.

Amador County.

Jackson *Ledger*, Oct. 10th: The Summit mine at the south end of the famous Badger lode, is being worked by Tibbetts & McAllister. They have sunk a shaft to the depth of 200 ft., and for the last 30 ft. have been running down on the lode, with a vein of quartz 16 inches wide—the rock proving equal to any taken from the old Badger.

The Kennedy mill is kept running night and day.

The Casco mill is being pushed forward with great vigor.

The chlorination works at the Coney & Bigelow mill are now in full operation, and under the control of Mr. John Agrell, are producing astonishing results. Last Saturday they cleaned up after a run of four weeks, and a result of nearly $8,000 in gold was obtained. The gold produced by this process is of the finest quality, being .992.

The Butte Basin Co. have sold their steam engine, pumps and hoisting works to the owners of the Anaconda mine, at Pine Grove. They intend to work their claim in future by sluicing, having purchased the old tunnel that leads into the gulch, for the purpose of carrying off the tailings.

Dispatch, Oct. 10th: The new mine which is now being developed, on the south extension of the Badger mine, at Sutter Creek, is yielding a very encouraging prospect.

We were shown a beautiful gold brick, last Wednesday, at Reicbling's assay office in this place, which weighed 388¼ ozs. and valued at $7,961. The gold is .922 fine and is worth $20.50 per oz. This brick is the product of 60 tons of sulphurets from the Coney & Bigelow mine, near town, after being run through the chlorination works which they have erected at ther mill.

Calaveras County.

Mokelumne Hill *Chronicle*, Oct. 10th: There is a great demand for laborers in this vicinity at present. All of the principal claims are short of hands, and are offering the highest wages. Practical miners, carpenters and ordinary laborers, can get steady employment and a fair remuneration for services by visiting Mokelumne Hill. There is no excuse for idlers in these parts.

Nevada County.

Transcript, Oct. 8th: In the all-absorbing political contest, we seldom hear of other matters. But the number of locations made and the extensive preparations for work in the mines throughout the county indicate that the approaching mining season will be very lively. For two or three years past there has been a great revival in placer mining all over the county, and many of the new companies organized within that time will be able to take out money the coming winter, the prospecting having been finished. The quartz mines also have excellent prospects ahead in most localities, especially in the new districts, such as Graniteville, South Fork, Meadow Lake, etc., is there cause for encouragement. Nevada County has every indication for a prosperous winter in every department of mining.

J. J. Dorsey & Co. have located 200 feet on Mooney Flat Ravine, running back to the center of the hill, for mining purposes. The new location is bounded on the north by Jackson & Co's ground, and on the south by Hartley & Co's claim.

Gazette, Oct. 6th: The owners of the Willow Valley mine, the work on which was suspended a year or more ago, have made arrangements to resume operations. A considerable quantity of rock has been crushed from this mine, which has always yielded good returns, and the ledge is of good size; but the great cost of the hoisting works, and of sinking an incline through hard rock, was more than some of the owners could stand, hence the suspension.

We learn that the Chalk Mountain Co. have struck gravel in their tunnel, and are now taking out excellent pay. The company have been running this tunnel for over eight months past. The Nevada Co. have 37 men cutting a ditch from Burrington Ridge to a point between the main and north fork of Deer Creek. The ditch will be nearly completed by Thursday night, and will carry about 1,000 inches of water, which will be used for hydraulicing on the Nevada Co's ground. Several shafts have been sunk on Burrington Point, on ground belonging to the Nevada Co., and the main, or Relief Hill channel, has been found, and the gravel prospects splendidly.

Oct. 8th: About 375 tons of ore are crushed at the Eureka mine weekly, or 62 tons per day.

Grass Valley *Union*, Oct. 8th: Yesterday the personal property of the New York Hill Mining Co. was sold at Sheriff sale. This property consists of blacksmith tools, cars, drills, powder, candles, amalgam, sulphurets, quartz rock on the surface, and other things. The amount bid for the whole amounted to $1,170.75. The property sold for this sum could not be replaced for $3,000. The sale was on execution in favor of Geo. F. Sharp, of San Francisco.

Oct. 9th: The ledge in the bottom of the shaft in the Empire mine, on Ophir Hill, is from 2½ to three feet thick, and at this time looks well. We saw some splendid rock, all flecked with gold, which has lately been taken out. The 30-stamp mill is kept running day and night, and manages to keep pretty well up with the rock which is taken out.

Oct. 13th: The Coe mine is now looking better than at any previous time. At the depth of 365 ft., rock is looking splendidly and is certain to result in a fine yield when crushed. The 10-stamp mill is rapidly approaching completion, and within two weeks they expect to have the batteries at work.

Grass Valley *National*, Oct. 10th: Bradley, Hand & Co., working in the bed of Wolf Creek on a back ledge of the Dromedary Co. have had a crushing of 13 loads at the Gold Hill mill, which paid on an average $40 per load. They are down on the ledge about 50 ft.

EXCELSIOR.—*Transcript*, Oct. 11th: The Mohawk and Montreal Mining Co. is getting on first rate. The last assessment was paid promptly, and the Trustees are confident that the result from the ore will pay current expenses and extinguish the debt. The mill is now running steadily and the mine yielding excellent ore.

Placer County.

Auburn *Herald*, Oct. 10th: The Golden Rule 20-stamp quartz mill has been passing through Auburn, on wagons, this week, to its new location, on the Green Emigrant mine, where it will be up and ready for business in about 30 days.

John M. Gillard is erecting a new 6-stamp quartz mill on the Mammoth ledge, near Page & Bros' ranch, on Dry Creek, about four miles west and north of Bald Hill, which will be completed, and at work, in about 15 days. The mill will be run by water from the Bear River ditch. We learn that the ledge is a large one, and prospects well. It is not a specimen ledge, but one that from every indication, will pay regular.

Auburn *Stars and Stripes*, Oct. 8th: Fitch, Christman & Boggs have about 30 tons of quartz taken from the Grant & Colfax ledge, now at the Ophir steam mill, awaiting to be crushed. The rock indicates great richness. Thirty tons of rock from the Wahlgreen claim, near Ophir, crushed a few days since, yielded over $80 per ton.

Sierra County.

Downieville *Messenger*, Oct. 10th: On Wednesday last nearly $8,000 in solid chunks of gold was brought down from this mill to Scamman's Bank in this place. This is the result of only two months work. The arastra below cleaned up some $600. The prospect is that better returns than the above may reasonably be expected in the future from this direction of our mines.

Mr. Knowles, of Howland Flat, wishes to dispose of a one undivided third interest in the Tailing claims, formerly known as the Knowles & Fant claims; also, one undivided third interest in a hydraulic claim on Grant Hill, joining the Tailing claims.

Tuolumne County.

Sonora *Democrat*, Oct. 10th: During a recent visit to Big Oak Flat we were grieved to see the sad effects of the fall of the Big Flume. A great many people have already left that section and others are going. If the flume had not fallen and the supply of water had continued as usual there would have been livelier times on the Oak Flat Hill this summer than for several years past.

Yuba County.

Marysville *Appeal*, Oct. 11th: Thomas Cook has been appointed Superintendent of the Pennsylvania mine at Brown's Valley, vice E. Van Muller resigned. The Board of Trustees visited the mine a day or two ago, and decided to go on with the work for the present.

ARIZONA.

Prescott *Miner*, Sept. 17th: Jackson & Co. have recently purchased the mining claims and ditch below their hydraulic claims, on Lynx Creek, from S. Z. Pierce. The company now have undisputed sway over all these rich and extensive diggings, and as soon as the water dries up, they will go to cutting a larger ditch than the one now in use, building flumes, and preparing generally, for a vigorous winter's piping.

Placer mining has almost ceased on Big Bug—cause, not sufficient water.

As yet we have no news from Black Cañon diggings, Bradshaw district.

In Hassayampa district, they are taking some very rich ore out of the Chase lode. ....At the Sterling all is life and animation. Work has fairly commenced on furnaces and ledge.

In Walker's district, McWilliams and Winning have just worked and cleaned up 17 tons of ore from the Deposit lode, which yielded the sum of $1,054, or $62 to the ton. We saw them weigh the gold and sell it at $17 an oz....The other arastra men were cleaning up when McWilliams and Winning left the creek. The water was drying up fast.

At Wickenburg, on the 14th, both mills were running, but it was feared that a suspension was inevitable, for the reason that sufficient teams could not be had to haul rock, the Indians having taken nearly all the animals about the place.

Henkel & Baker, who have recently been employed by Noyes & Curtis at the Chase lode, showed us, the other day, a specimen of ore from a lode recently discovered by them, about one mile south of the Chase lode, and which they have named the Bunker Hill. The specimen left with us contains a great deal of gold, and they assured us that one pound of such rock, treated by them, yielded $1.

COLORADO.

Central City *Register*, Sept. 24th: There are three men at work on a slide from the Kansas lode, on Quartz Hill. They take about a cord and a half of dirt per day, which pays about $60 per cord in gold. It is crushed in the Beverly mill, which is running eight stamps.

A fine nugget of gold weighing 111½ pennyweights, was taken from Clear Creek a few days since. It weighs several pennyweights more than the one taken from Russell Gulch by Richard White, in the latter part of July.

Hurd's mill at Black Hawk, is now in complete running order. It has 20 stamps, six of which are put up by themselves to be used in reducing small lots of ore, prospecting, etc.

Col. Randolph, of the Ophir mine, on Quartz Hill, is working about 40 men in the mine and at the mill. They take out about three cords per day, the best of which runs 24 stamps, and yields about six ozs. per cord.

Georgetown *Miner*, Sept. 24th: The owners of the Equator have commenced sinking a shaft for ventilation between their two working shafts....Work on the Nuckolls lode has been resumed. In the bottom of the shaft they have about two feet of ore....The Marshall tunnel is progressing finely. The distance driven is about 45 feet....Work on the Elijah Hise lode has been resumed.. .Prof. Stewart started up his works on Monday night last. Next week we will have a report of his first runs, both by smelting and amalgamation....Byron E. Cox is developing a lode on Saxon Mountain, called the El Dorado, that has a four-inch vein of sulphurets that gives an average assay of over $300 in silver to the ton of ore....Last Friday we were in the Terrible shaft and drifts. In the west drift a shot was put in what was supposed to be the north wall, but which proved to be a fine mineral vein from 12 to 16 inches in thickness. This drift is now a little over 100 feet, and is yielding a large quantity of first class ore.

Central City *Herald*, Sept. 30th: The recent break in the Cullison water mill has been repaired, and commenced running last evening on ore from the Golden Eagle. Mr. Cameron showed us yesterday some very nice specimens of gold nuggets which were taken out of his claims on North Clear Creek, above the junction. His claims have been paying him very handsomely of late.

Mr. Hickcox is raising a very nice quality of argentiferous galena from the Franklin lode, at the head of Gilson Gulch. He is working two shafts, and is running both night and day hands.

We have been shown some very handsome specimens from the Rising Sun lode, just above Carson Gulch. From a cord which was run through Chency's mill, $118 in gold was obtained.

Messrs. Marsh & Terry, of Black Hawk, have purchased a water power on North Clear Creek, below the mouth of Missouri Gulch. They will erect a stamp mill on the same this fall.

The reduction works of J. O. Stewart, at Georgetown, are now running and will be successful. Their capacity is two tons per day, and any kind of ore found in Griffith district will be treated.

Cyrus Hurd started up his new 20-stamp mill this morning, on surface ore from a new lode recently discovered in Gregory district.

The Baker Co. have erected a large mill on Clear Creek. It is one of the finest in the Territory. When completed it will have three of the California cylinders for the treatment of sulphuret ores. The smelting and cupel furnace are now finished, and a test run has been made with satisfactory results. The mine does not yield sufficient galena ore to keep the smelting furnace constantly employed, but a considerable quantity has been obtained from the Hampton lode.

DACOTAH.

Frontier *Index*, Sept. 22d: We learn by a gentleman from Sweetwater that the camp at Rock Creek is coming out. It is paying $20 per day to the hand. Men are scarce in the California district, where wages are $5 per day in placer diggings.

IDAHO.

Owyhee *Avalanche*, Oct. 3d: We were this week shown an assay made by McDonald & Co., of ore from the Bedford, a ledge recently discovered by Noland, Larragay, Clark and others, in Flint district, about one and a half miles east of Owyhee City, which proves that all the rich quartz is not yet found in Owyhee County. The shaft is now down 12 ft., and shows a width of three feet, with even pay all through.

Rich gold ore has lately been struck in the Rapidan, which bids fair of becoming one of the best mines in camp.

Work is progressing on the first south extension of the Savage. The tunnel is now in over 30 feet, with good indications ahead.

A rich pocket has lately been struck in the Oro Fino.

The Lincoln mill has stopped for repairs.

Trask & Son's arastra is running on Rapidan ore.

Peck & Porter have a shaft down on the second extension of the Oro Fino, 90 feet from the bottom of which they are drifting north.

Winnemucca *Argent*, Oct. 8th: A private letter received from General Crook, says: I think that country will be pretty well prospected this summer and fall, as several parties were prospecting in different directions. They tell me that they found quite a quartz district on the Klamath road about the headwaters of Sprague River, but they had not prospected it. The Goose Lake country showed off to better advantage this year than it did last.

Lewiston *Journal*, Sept. 26th: A party of prospectors have left Elk in search of the much talked of Indian Diggings.

Rich and extensive mines have been discovered 20 miles from Pierce City, on Gold and Cow creeks—two large streams emptying into the north fork of Clearwater. We have known for sometime that gold had been found in paying quantities on Gold Creek—and that Messrs. Capps & Boyd were making $12 to the hand with rockers. The diggings on Cow Creek are not over eight feet deep; the prospects average from the surface to the bedrock eight cents to the pan. Ned Ryan took out of his claim as high as 75 cents to the pan. The gold is coarser than any ever before found in or near Oro Fino. The country around Gold and Cow creeks is said to be a better looking placer region than that of Oro Fino. Parties continue prospecting and are everywhere meeting with success. There are now from 40 to 50 men at work.

The Cœur d'Alene excitement has after all been very good—it having resulted in the discovery of this new and important mining camp.

MONTANA.

Helena *Post*, Oct. 2d: From Ingersoll, we learn that Henderson Gulch is still yielding good pay to all who are working in it.... He also informs us that Harvey Creek shows signs of better days. Two bedrock flumes are in course of construction ...Several fine silver ledges have been discovered on Boulder Creek, a tributary of Flint Creek. Cabins have been erected in the vicinity of these discoveries, and the parties named propose to work on the new mines during the winter....A shaft has been sunk to bedrock in Confederate Gulch, about 800 feet below the head of King & Gillette's flume, and prospects of 25 and 80 cents to the pan obtained. It is thought that the ground will pay $20 a day to the hand.

During the month of September F. Bohm & Co. have smelted $196,695.45 of gold dust, all of which has been transformed into gold bars, and sent East to be coined.

The crude bullion obtained from a very imperfect run in the Rutan furnace, near Jefferson, was brought to this city day before yesterday, and, under the manipulations of Molitor & Co., produced 263 ozs. of silver, with a fineness denoted by .872.

For the day and a half ending yesterday noon, Bohm & Co. smelted $21,640 worth of gold dust. This was run into three bars and shipped east on yesterday's coach.

Molitor & Co. yesterday received the first lot of Cœur d'Alene gold for smelting that has yet arrived in the city. It is found to be fully equal to Highland gold in fineness, being .975 fine. The dust is worth $19.45 per ounce in gold coin.

Alfred Metcalf, of Diamond, reports that the claim in which he is interested in Confederate Gulch, last week yielded the sum of $20,000 gold, $5,000 of which was obtained in one day.

From seven tons of ore the Rutan Mining Co. at Jefferson procured over two tons of bullion, which by cupelling, yielded 65 pounds of silver mixed with some gold.

Deer Lodge *Independent*, Sept. 30th: The Stuart mill is running on the Rumley & Bagher lode. This mine is 30 feet in width and well defined. Work is steadily progressing on the Hope, the ledge being eight feet wide, and the ore the richest ever found in Montana.

NEVADA.

Esmeralda.

Aurora *Union*, Oct. 3d: The publication of this paper has been discontinued, as the editor says, "for the present, and perhaps forever."

Virginia *Enterprise*, Oct. 10th: Wm. A. Bourne, Superintendent of the Midas mine, Pine Grove, arrived in this city last night with a gold brick worth $3,000, the result of a crushing of 100 tons of Midas ore. Mr. Bourne informs us that they have in sight some 600 tons of the same quality of ore. The Wilson Mining Co. are getting out and crushing some very fine ore—it averages $40 per ton. They have in sight a year's supply of the same kind of ore. The mine has never looked better than at present. The Wheeler Co. are taking out some very fine ore, the crushing of which has just been commenced at the Pioneer mill. Toombs & Abrams are working upon a contract from the Wilson Co. They have a 5-stamp mill of their own and doing well. Mr. Rice, of Carson City, is at work upon the Mountain View claim, which is an extension on the Midas lead, and has every prospect of doing well. Every mill in Pine Grove is at work.

Humboldt.

Unionville *Register*, Oct. 3d: Reports from the different mines in Gold Run district are of the most favorable character. The Golconda, Cumberland and Register claims are improving daily in richness of ore and extent of veins. The new mill is being built in the most improved style by men thoroughly competent to guarantee success.

Work will be resumed on both the Sheba and De Soto companies.

Fall & Co. shipped this week, per Wells, Fargo & Co's Express, 2,700 ounces of fine bullion.

The Golden Dart ledge, in Santa Clara district, bids fair to eclipse in richness anything ever discovered in the gold line in the State. The vein is small, but the quartz fairly glisteus with free metal. It is within about eight miles of the railroad, and its owners propose to ship the ore until they can arrange for the erection of a mill.

Winnemucca *Argent*, Oct. 8th: J. M. White brought down 103 pounds of Golconda bullion this week. The water is rising in the ditch. The mine is yielding an improved quality of ore.

Holt's mill, in Gold Run, will soon be ready to crush ore. Mr. Holt has recently been to San Francisco for machinery.

Reese River.

Austin *Reveille*, Oct. 3d: The district of White Pine still continues to be the chief attractive point of the "Great East," to which the attention of all is directed, and from which glowing accounts of marvelous discoveries of silver ore constantly emanate. From those who have recently visited this most wonderful region, and whose observance of the condition of affairs there enable them to speak understandingly, we are led into a belief that another year will witness upon that spot a city second to none in the State. It is scarcely possible to do justice to the mines of Treasure Hill, and at this time we will not attempt their description. One alone—the Eberhardt—is producing immense quantities of ore, the second class of which by mill process, and which class is at present alone worked, yields a sum exceeding $1,000 per ton! Considerable quantities of this has already been reduced, and none as yet has been worked which has not greatly exceeded that sum. The first class, of which there is an amount in sight at the mine beyond calculation, will produce from $10,000 to $12,000 per ton! One small pile of dirty looking matter is shown to the visitor. It could easily be piled upon an ordinary sized wagon, and yet one is told that its value in gold coin is near $100,000. A close observation shows it to be horn silver, mixed with a little silica, and were one not inclined to believe before that it was of such extreme richness, the observation removes skepticism. And such ore as this comes from the body of a vein thoroughly explored to a depth of about 70 feet, more than 100 feet in width, and with smooth and solid walls encasing it upon either side! Such, in brief, are the Keyestone and Eberhardt—both upon one vein—showing without doubt the most remarkable and by far the greatest body of chloride ore ever yet discovered in this or any other country upon the globe. More than 100 miners are constantly at work upon the Eberhardt, while all around in close proximity are numerous parties of miners delving for treasures which they seem to find a few feet below the surface in veins of lesser magnitude, and whose constantly exploding blasts make it exceedingly lively as well as dangerous for those visiting and working in the locality. At Hamilton there is a plentiful supply of water, and there is a magnificent 10-stamp quartz mill now in course of erection by Jeremiah Miller.

Pack trains are now delivering ore at Page's mill from the Eberhardt and other mines, and soon the stranger, as he approaches Shermantown, will be greeted by the clattering stamps, and at Tom. Luther's assay office and melting works, now ready for business, can feast his eyes upon great piles of bright silver bars produced from the richer ore, with less labor, and more rapidly than at any other region in the world.

We learn that a very rich body of ore has been struck in the Timoke mine. We have not yet learned the particulars, but have seen some of the ore which looks very well.

Oct. 5th: For the week ending Saturday the 3d inst., the Manhattan mill produced 35,525 ounces of bullion.

Oct. 6th: Late yesterday afternoon a lot of bullion, comprising 35 bars, averaging .960 fine, and valued at $48,489.56, was brought into the city from the Centenary mill in the Newark district. The bullion is the product of ore obtained from the Eberhardt South and Keystone in the district of White Pine, and was reduced in one week at the Centenary mill.

Grass Valley *National*, Oct. 9th: The silver mines of the White Pine district, Nevada, are in two respects the most remarkable yet discovered in that State. The ore is the richest, and it is thus far mostly found in a deposit on the surface, as if from the decomposition in place of the outcropping rock. The Comstock lode was first traced from a similar surface deposit, but not of equal extent or richness. If we are to believe the reports from the White Pine, the masses of horn silver found on the surface are many feet in depth, and cover a considerable area. Some of it is said to yield, not to assay merely, $5,000 to $10,000 per ton; and in several claims large quantities are reported which yield hundreds of dollars per ton without selection. The rock is mostly parted from the ore, leaving the latter in rich masses, concentrated, as it were, by the action of the elements.

Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district

Virginia *Enterprise*, Oct. 7th: The machinery is being removed from the old, dilapidated Comet mill, at Gold Hill, and the building—what is left of it—will shortly be torn down.

During the month of September, Wells, Fargo & Co. shipped from their office in this city, bullion to the value of $523,999.35, and for the same month the shipment of the Pacific Union Express Co. was $41,898.89; making the total shipment from this city during the month, $565,898.24.

Oct. 8th: The Mexican mine in this city has been leased for nine months by Sweetapple & Hirschman, the well known millmen. They have furnished the works with a new boiler, engine and hoisting works, and to-day the whole will be in operation. We saw yesterday many specimens of ore which they have taken from the mine that reminded us of early times in the history of the Comstock, so rich were they in the soft, black sulphurets, then so common and so much sought for and admired. Some of these show spangles of bright, native gold, and would make valuable cabinet specimens, as it is now a difficult matter to find that particular variety of ore.

Oct. 9th: The Alpha mine, Gold Hill, is producing a large amount of "red ore," a species found in the upper levels. Work below the 900-foot level has been discontinued for the present, owing to the large quantity of water encountered.

Oct. 10th: The Pacific Union Express Co. shipped last night eight bars of bullion worth $12,495.55.

The Bullion Mining Co. will shortly commence sinking their main shaft to a further depth of 200 feet. It is now the deepest shaft in the State, being 1,200 in depth. The Bullion folks are bound to strike silver, the infernal regions, or China.

During the past week there has been shipped by the Express Co's from this city and Gold Hill 8,312 pounds of assayed bullion, valued at $196,216.06.

NEW MEXICO.

The Colorado *Chieftain* says the news from the Moreno mines continues favorable. Every day brings reports of recent and valuable discoveries. In fact, intelligence from the mineral regions in every direction is very encouraging.

OREGON.

Dalles *Mountaineer*, Oct. 2d: By a party just returned from Willow Creek, we learn that there is no doubt of rich diggings existing in that region of country. They expect by another year to have plenty of water to work the mines, when they will be thoroughly prospected.

The Blue Mountain *Times* says that very good placer diggings have recently been discovered on a fork of Cañon Creek, 13 miles from Cañon City. Two new discoveries have also been made in Baker County, not far from Auburn, which will undoubtedly become good camps in the spring.

Mexican Silver in Philadelphia.—A recent purchase has been made, by a Philadelphia company, of certain mines in Chihuahua from Don Raphael Ortiz, who has for the past nine years successfully worked them in the old Mexican style. The mines are reported to pay largely. A correspondent says: "Having visited the celebrated Comstock lode, Virginia, Nevada, and several of the most prominent mines in that vicinity, I failed to see anything there that would compare in richness to the Mexican mines. I am satisfied that if the Mexican government was what it should be or was in the hands of Americans, so that capitalists would be justified in investing money in the development of mines, the result would astonish the world. The Manta Grauada, Santa Rosa and San Martin mines are owned by a Philadelphia company, of which Mr. J. S. Waterman is president and Mr. J. M. Crawford treasurer. The superintendent, Mr. Dickson Rany, left Mazatlan July 22d, on the steamer for Guaymas, en route for the mines, and has brought direct from the East improved water wheels and other machinery needed for the better working of the mines."

Inventor of the Melodeon—Its Principle.—Jeremiah Carhart, the inventor of the melodeon, has just died. In 1836, while studying the construction of the accordeon, he discovered that the tones were much better when the wind was drawn through the reeds than when it is expelled through. A series of experiments followed, which led to the discovery of the melodeon.

On or about the 21st of October the overland stage will connect with the cars at the mouth of Reese river.

Steam Traction on Common Roads.

The success of common road traction engines in England, Canada, and Brazil, is attracting attention, and the practicability of a new system of roads cheaper than the present iron railways and more efficacious than the common roads, is being discussed in many of the engineering and railroad journals. Adams, a London engineer, in a letter to the *Times*, says:

"The practical fact is, that properly constructed engines and carriages can run upon as sharp curves and up as steep gradients as horses can, and with a power of carrying loads that no horses could ever accomplish, and therefore every common road in England has the capacity for becoming a railway, with its inns, stations, towns, villages, farms, and water supply already provided. These common roads intersect the railways and form approaches in every direction with very little outlay. The rails (bands of iron) can be laid flat with the surface, and permit the traffic of ordinary horse vehicles so long as horse vehicles continue to be used. Steam trains can travel on such lines at any speed from five to thirty miles per hour, and although tram rails, as they are called, may be objectionable on crowded London streets and thoroughfares, and such neighborhoods as the parks, country roads present a very different set of circumstances. Railway directors complain that the landholders have doubled the value of their property by lines made by others which do not yield a dividend. There is no apparent reason why railway shareholders should not acquire land along their borders, and erect buildings on them, putting a profit into their own pockets by rents, to which transit fares would be subservient. There is no reason why steam traffic should not obtain the ten miles an hour of the old mails, the more especially as it is more under control than horses are, and the train can be brought to a standstill more effectually by steam than by whip and reins. Nor is there any reason why the keepers of horses should be allowed to use skittish animals upon public roads, for it is as easy to break a horse into a steam engine as to a cannon."

It is said that cheap wooden railways have proved successful at several places in the interior of New York, on one of which traction engines are used. The Boston *Railway Times* adds:

We have no doubt that the street railway system can be extended very largely in the suburbs of the larger cities with profit to all concerned. Mr. Adams states that when a traffic of $15 per mile per week can be calculated upon, it will justify the laying of the rails on common roads as a self-contained speculation, and no truth is more certain than that the means of transit creates and increases transit, and thickens population.

The Ediuburgh *Scotsman* has the following on the same general subject:

On Saturday afternoon a very remarkable sight was seen in this city. A train of heavily laden coal wagons, looking exactly like a luggage train, was observed coming steadily up the steep incline leading into Edinburgh from Dalkeith. It was one of Mr. R. W. Thompson's patent road steamers, with india rubber wheel tires, having four huge loaded wagons in tow. Each wagon weighed, when empty, two and three-quarter tons, and carried a load of five and one-quarter tons of coal, making the gross weight of the wagons thirty-three tons. The road steamer weighs eight tons. Thus a total of forty-one tons was in motion. The road steamer had drawn the train from Newbattle collieries, eight miles from Edinburgh, over a very hilly road, with rising gradients of one in sixteen.

The hill from Pow Burn up to Minto street is both long and steep, but the road steamer drew its train to the top with the most perfect ease. There can be no doubt this invention of the application of vulcanized india rubber to the tires of road steamers forms the greatest stop which has ever been made in the use of steam on common roads. It completely removes the two difficulties which have hitherto barred the way to the use of traction engines—viz.: the mutual destruction of the detraction engine and the roads.

Lamp for use under Water.—Mr. John Ward, of Port Glasgow, has invented an arrangement for supplying light under water; it is an ordinary lantern, with two tubes for the descent and ascent respectively of air. Mr. Ward thinks that the heat from the flame will cause the necessary current of air.—*London Mining Journal.*

MINING AND SCIENTIFIC PRESS.

W. B. EWER,.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

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Our Friends can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866

Dr. L. G. Yates is our duly authorized traveling agent. July 6, 1867

Mr. A. B. Butler is a duly authorized traveling agent and correspondent for this paper. July 15, 1867.

Resident Agents.

Central City, C. T.—Messrs. Richards & Crane, of the City Book Store, Main street, will act as our agents.

Georgetown, C. T.—John A. Lafferty, Postmaster, is our agent in this place.

Denver City, C. T.—Messrs. Woolworth & Moffat, are our agents for this place.

Cheyenne, D. T.—Mr. Robert Beers is our authorized agent for this place.

Omaha, N. T.—Messrs. Barkalow & Brothers, are our agents for this place.

San Francisco:

Saturday Morning, Oct. 17, 1868.

Notices to Correspondents.

[We take this opportunity of explaining to intending eorrespondents, that it is always presumed that when seeking information through the medium of this eolumn, that while on our part preserving any requested or inferred ineognito by the adoption of initials or pseudonym by the former, we, as well as all editors expect sueh eommunication will be invariably accompanied by the real name and address of the writer. On the last named account, the eommunication which will presently be notieed, has been passed by for more than a week, on re-pernsing the same, when assorting matter for the waste basket, we deemed it probable that S. P. J. might possibly be unaware of the general rule with editors of periodicals.

S. P J. inquires if an engine of 25-horse power, having 60 pounds of steam, with a driving wheel 29½ inches in diameter, with a belt running on to another wheel, five feet ten inches in diameter, the engine making 100 revolntions, whether by lagging np the 29½ ineh wbeel to 35½ inches,—that is tbree inches on each side,—will it not take less steam, aud the engine make fewer revolntions, and the engine labor less to drive the same machinery or to get the same number of revolntions? If onr correspondent will only hear in view the well estahlished Newtonian axiom, that what is gained in motion is lost in power, and what is gained in power is lost in motion whenever the initial foree is the same in hoth cases, he would pereeive that tbe desideratum which he seoks to secure is unattainable, and in this case, but it must he apparent to our correspondent, that if the speed of the engine is redueed, thus redncing the quantity of steam required, that the power will be redueed aceordingly.

Cerealia.—If seeds are sown as soon as they are gathered, they generally vegetate, at the latest, during the ensuing spring; but if they are first dried, it often happens that they will be a whole year or more in the ground without altering. This property varies greatly in different speeies. The power of preserving their vitality is also variable; some will maintain their germinating powers many years, in any latitude, and under almost any cireumstanees. Melon seeds have been known to grow when forty-one years old, maize thirty years, the sensative plant sixty years, kidney beans 100 years. Clover will make its appearanee on recently dug or plowed land, on places where no clover had previonsly heen seen to grow within the memory of man. The black, or as it is in California commonly called wild mustard seed, possesses astonishing proporties in this respect. Dr. Lindley has stated that he possessed three raspberry plants whieh had been raised in tbe garden of the London Horticultural Society, from seeds obtained from the stomaeh of a man whose skeleton was found thirty feet below the surface of the earth, at the bottom of a barrow, which was opened near Dorchester, England. The body had been buried with some eoins of tbe Emperor Hadrian, and if no error has occurred, it would render it probable that the seeds were sixteen or seventeen hundred years old.

Age of the Ancient River Channels of California.

Do miners eare to know anything about the age and history of the ancient river ehannels in which they are tunneling, and delving, and slnieing like Titans, a thousand or two feet up in the mountain sides above the present river eourses? The question is superfluous, for the Californian miner is not a navvy. The engineer of the nozzle and hose-pipe earries his head and eyes with him, and if there is a petrified or a earhonized log in the ehannel, he will eertainly notice whieh way the butt lies.

Faets are not wanting, which, if eolleeted from the observers, and put properly together, wonld furnish ns with a eompletely satisfactory aceount of the wonderful transformation of the topography of our golden foot hills, and of the mystery of a system of antedilnvian rivers on the mountain tops. It is not theories on the subjeet, however, that we are in need of, for everyhody has his theory or theories, as to the eanses and eatastrophies, the turnings and eonrses, and the hights and depths of the anriferous ehannels, in whieh there is freqnently displayed an intimate knowledge of the operations of nature, sueh as would be aeknowledged to be deserving of the highest eredit if possessed by a scientifie man. Nor should we he hasty in eondemning the late State Geologieal Snrvey for having furnished ns with so little in regard to the aneient river ehannels, until we know at least what actually has been done. A eareful perusal of Prof. Whitney's first volume on Geology will diselose much valuable information on the subject, that general or superficial readers would not be aware of.

The geological age of the later deep placer deposits, dating snbsequent to the era of volcanic eruptions, when so many of the river heds were filled up by lavaflows, is put down as equivalent to the post-Plioeene or latest Tertiary of the East and of Enrope; the animals and plants of which are the same as those now liviug as to genera, but are not generally identical in speeies. Particular speeies of the mastodon, elephant, horse, tapir and buffalo (described by Leidy in the Proceedings of the Philadelphia Academy of Seiences for 1865), differing from those found in the river channels under the eement ridges or lava flows (see "Table Monntain" in State Geologieal Report), mark the age of the shallower and uneovered gravel deposits as distinet from, and of later date, than the aueient rivers proper, where tbere seem to be not only different species, hut different genera from thosc now living. Amongst the "medals" from underneath the lava or cement ridges as they are generally called, Newberry deserihes as plants peenliar to tho formation, the species *Acer* and *Carpinus*, which have never been fouud to date so far back as the Eocene, or earliest Tertiary; while Whitney mentions as also charaeteristie a kind of rhinoceros, an extinct horse, and a species of eamel ealled the Megalomeryx. None of these seem to have existed sinee the Pliocene age proper; and they correspond very nearly to the fossils of the prolifie Plioeene formation on the Niobrara and White rivers, east of the Rocky Mountains, explored and determined by Hayden.

According to the facts just given, the date of the lava flows, tben, appears to be pretty well marked, as the separatiug line in our horizon, between the Plioceno and the post-Pliocene, or Recent, or "Pleistocene" age.

It is in this latter age that man first reords his existenee amongst the durable materials of the rocks. By means of animals encased in formations overlapping each other, the post-Pliocene age has been snbdivided in Europe into the Cave Bear and the Reindeer epoehs, in both of whieh, accompanying extinct speeies of animals, stone arrowheads, and other human relies have been found, which have indneed geologists to designate it as the Stone Age. Much interesting information eoneerning the early history of man has heen dug from the bowels of the earth by Lartet, Vogt, Christy, and others. In the Swiss laeustrine or lake shore, and in the Ameriean mound relies, we have suggestions of what will soon be understood and separated as eras in the geologieal history of man; and geology is thus brought down to the verge where it passes over into a history of antiquities.

In California relies of the Stone Age have been repeatedly found in eonneetion with the bones of the mastodon, elephant, tapir, huffalo, and other post-Plioeene fossils, in the shallower gravel deposits; but the press, and scientifie people, have been very incredulous with regard to alleged evidenees of man's existenee prior to the era of the lava flows. It was in 1866 that Matteson, a miner near Angel's Camp, dug out a skull from an aneient river ehannel, in a shaft 130 feet down nnderneath a flow of lava. Prof. Whitney believed the diseovery to he the most aneient of all known reeords of the existenee of the human race. Representing the inerednlity of the quidnuncs, Frank Brett Harte availed himself of the privileges of poetry, and addressed the skull itself, in order to settle the vexed question:

Eo—Mio—Pio—whatsoe'er the "eene" was
That those vacant sockets filled with awe and wonder—
Whether shores Devonian or Silurian beaches—
Tell us thy strange story!

And, from that imperfect dental exhibition,
Stained with expressed juices of the weed Nicotian,
Came these hollow accents, blent with softer murmurs
Of expectoration:

"Which my name is Bowers, and my crust was busted
Falling down a shaft in Calaveras County;
But I'd take it kindly if you'd send the pieces
Home to old Missouri!"

So the question was settled; hut it was not destined to stay settled, because there are more skulls to he disposed of. Bowers was nndoubtedly a Plioeene fossil.

The additional evidence that now presents itself is in the shape of a eollection of spear heads, and other stone relies, which have been found in the gravel at the end of a tunnel underneath the Table Mountain lava flow, near Sonora, Tuolumne County. Dr. L. G. Yates, of that eounty, an industrious collector of fossils and minerals, and agent of the Mining and Scientific Press, has favored us with an opportunity to examine these relies, hy laying the originals on our table, together with some plaster casts of the same, which are to be forwarded to the Smithsonian Institute. Similar relies from an aneient river bed under lava, we notiee, were described hy Prof. W. P. Blake, before the American Assoeiation for the Advancement of Seience, which recently held its annual meeting at Chicago; belonging, like the following, to Dr. Snell's collection, Sonora.

The specimens eonsist of two spear heads, very long, round, and broken off where the holes were made to fasten them to the wood, heing made of silicious slate; two scoops or ladles with short handles, resembling the little horn seoops used by drnggists, worn off from uso on the left hand side, heing made of a psendomorphous micaeeous steatite; a little cylindrical piece flattened on one side, with notches for tying fast, which might have been used as a bow stiffener, or possibly as a shuttle, of laminated slate; a hodkin, with a notch for strings at one end, of silicious slate. These stone relies differ entirely from anything ever found in the possession of the present Indians of the Pacific Slope. From other localities, in gravel not covered hy volcanic lava, there was shown ns a ealc spar ornament, which might have been some savage giant's ear-ring, and a pipe bowl (prohahly), of steatite.

Four boxes of specimens of this kind have been sent by Dr. Yates to the Smithsonian Institute, where Professors Baird and Henry are now, and have been for some time, assidonsly engaged in gathering and preparing the material for an exhaustivo work on the Stone Age of tbe human race in North and South Ameriea.

As worthy of note, mineralogically, we may mention in this eonnection, that Dr. Yates has also brought with him to this city a large piece of vein rock, studded with quartz crystals having gold partially crystallized spangled thiekly over the surface of the quartz erystals, as well as distributed through them in laminæ, and very riehly through the body of the rock.

Contributions for our Cabinet.

Under this heading we shall continue to mention and describe, according to merit, such specimens of ores, minerals, fossils, curiosities, etc., as may be presented, or forwarded to us by mail or express, prepaid. Each article will be numbered and placed in our cabinet, and recorded with the name of the donor, and the claim or location from whence it came.

No. 271.—Siliea, eontaining mueh iron, prineipally jasper, with darker streaks richer in iron than the rest; from a large vein near Taylorville, Plumas County, which was supposed to eontain quicksilver. Charles Burr.

No. 272.—Pebble of titanie iron, from Gold Lake, Sierra County.

No. 273.—Gold ore, pyrites, from the Mohawk ledge, Exeelsior Distriet, Nevada County; heing the same that has heen under treatment in the Hagan furnaee roasting process.

No. 274.—Burnt pyrites, showing free gold, from the Wiseonsin mine, Meadow Lake, Nevada County. Presented by A. M. Burns, Superintendent.

No. 275.—Ore from the famous Poorman mine, Owyhee District, Idaho. Blaek sulphuret or vitreons silver, and free gold, distrihuted in quartz. Presented by the Superintendent, W. C. Lord.

No. 276.—Ida Elmore mine, Carson Distriet, Idaho (locality of the snbterranean war). Black sulphuret and free gold, in well defined parallel layers, interstratified with quartz. W. C. Lord.

No. 277.—Banner ledge, Yuha District, Idaho. Bright red or ruby silver, and vitreous silver, distributed in quartz. Wm. Purvine.

No. 278.—Graphite, locality unknown.

No. 279.—Petrified wood, Napa County. Ezra Carpenter.

Notice to Patentees.

We have on hand the following patents whieh we have reeeived from the Patent Offieo in Washington, for inventors on this coast. We hold them subjeet to the orders of the owners.

Gang Plow.—James T. Watkins, Santa Clara.

Manufacture of Brick.—Silas H. Bowman, Half Moon Bay.

Amalgamator.—Alfred Horn, Silver City, Nev.

Car Coupling.—Geo. H. Henfield, San Francisco.

Ball Alley.—James D. Patriek, San Franeisco.

Revolving Furnace for Roasting Ores. Frederiek Ernst, San Franeisco.

Gang Plow.—James H. Andrews, Benicia.

Car and Track for Elevating on Inclined Planes.—James W. Pearce, Suisun.

Motive Power.—Stockton & St. John, Folsom.

Carriage Spring.—Walter B. Higgins, San Francisco.

Chain Inclinometer.—Hermann Schussler, San Francisco.

Kiln for drying Malt.—Oefinger & Grupp, San Francisco.

Introduction of Gas into Railroad Cars.—The New York and New Haven Railroad are trying a new experiment in the use of gas in their cars. A former experiment was tried on the same road a few years ago; but the inventor in that case relied upon atmospheric pressnre to force the gas from the gasometer (under the cars) to the burners, and the plan proved a failure. In the present instanee the gas is forced out of the gasometer to the burner by means of strong springs, and the qnantity of light can be regulated as desired. The new apparatus has as yet only been applied to one ear of the 8 o'elock, P. M., Boston Express Line, with very satisfaetory results, and will, in all probability, be introduced in all the cars of the night-lines at an early day.—*Gas Light Journal, Sept. 2d.*

For Water Dye.—It is said that simple tar water may he employed for dyeing silk and wool what is called a *gris cendre*, or ash-gray color. The stuff is first mordanted with weak perehloride of iron, by soaking in the solution for some hours. It is then drained and passed through the bath of tar water. The oxyphenate of iron, which is thus preeipitated on the fabric, gives a very solid color.

Evans' Corrugated Riffle and Concentrator.

Mr. Geo. R. Evans, of Virginia City, has been exhibiting during the week, on Clay street below Battery, a modification of the ordinary amalgamated copper riffle plates, in use in the quartz mills, and sometimes in shallow placer claims, which possesses peculiar features worthy attention. Instead of being angular in profile, the unoven surface over which the pulp passes is corrugated, like the material forming the walls of the iron houses which every Californian has seen; or "hollow and round," as the inventor aptly designates it. The corrugation is exactly semi-circular, and therein lies the chief peculiarity; the effect of the same being that the particles of one are so tossed, rolled and ground against each other, as to be alternately under the sway of the current, and thrown off successively into a series of eddies. An idea of the manner in which even light particles, like splinters of wood, are revolved in these frothing eddies, can be obtained only by witnessing the operation. After returning into the eddy five or six times, depending upon the quantity of water let on, the splinter finally receives an impetus from the current which carries it over into the next corrugation, where the tossing and grinding are repeated.

Any other shaped riffle than that of semi-circular corrugation, encounters the difficulty of caking, rendering useless the amalgamated copper surface, as well as much of the mechanical advantage of the riffles, by filling them up. Numberless experiments with riffles of differently shaped profile, made since last January, finally brought Mr. Evans to the "hollow and round;" the satisfactory operation of which seems to have won his unbounded approval, and confidence.

Every second corrugation, or hollow, has a long slit at the bottom through which the quicksilver and amalgam are enabled to escape into a series of boxes or tanks underneath, where the principle of overflowing is made use of to effect a further concentration; while the intermediate hollow which has no slit in it is intended to hold and expose constantly to the ore a small quantity of quicksilver. The dimensions of a riffle suitable for a 20-stamp mill are two feet in width and twelve feet in length, and the corrugation semi-circles, are three inches in diameter. It is claimed that this appliance will entirely supersede the use of blankets. In placer and gravel mining the same thing is intended to be applied, but made of cast iron, amalgamated by a process known to the parties interested, so as to cost but little. Where heavy stones passing over would wear down the corrugations too severely, it is proposed that they shall be protected by grate bars, which will let through only the finer dirt. It would be necessary to remove the amalgam, either on the riffles or in the boxes underneath, but once in 24 hours. From one to three pounds of quicksilver are admitted to be lost to the ton of ore, it is stated, on an average, in the treatment of Washoe rock. Mr. Evans thinks he will reduce this loss by more than half, and that the average product of $65 out of the $100 of silver in the rock, can also be materially increased. A patent has been applied for through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. Persons desiring further information, can obtain the same through S. P. Taylor, No. 319 Clay street, who is the general agent.

FIRE-PROOF FLOORING.—A new fire-proof flooring has been adopted in all the corn stores of the General Omnibus Company in Paris. It is made by spreading upon the planks a layer of clay about an inch in thickness, and running upon this a layer of asphalt about half an inch thick. Numerous experiments, it is said, have proved the efficacy of this as a protection against the spread of fire.

The American Watch Manufactory, at Waltham, Mass.

As a matter of interest to every one, who has been placed on this mundane sphere in order to learn to "take a note of time" before trying the infinities of the world beyond, we furnish our readers this week with a few facts concerning that great development of peculiarly American industry and talent—the Watch Manufactory of Waltham, Mass.—which will not fail to be read with satisfaction. The data are derived from a letter published in the New York *Tribune*, written by an excellent correspondent who visited the establishment. It is only necessary to add, for the information of Californians, that R. B. Gray & Co. of No. 616 Merchant street, are the agents of the American Watch Company for California.

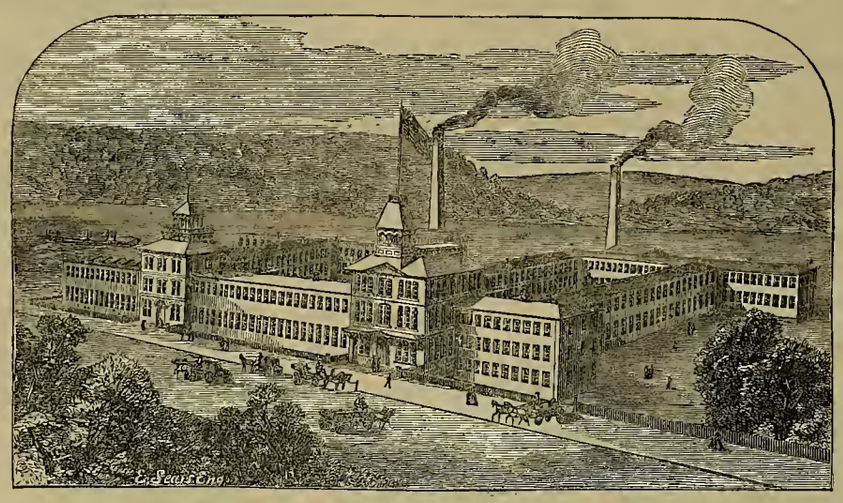
The principle of making clocks by machinery, has long been applied, having driven out foreign competition. But the watch, so minute and so delicate, seemed to offer insuperable obstacles. Fifteen years ago, two sanguine, plucky Bostonians, who made watches by hand, originated a project for making them by machinery. Infusing their own zeal into neighbors, they formed a stock company, obtained $100,000 in subscriptions, and in 1854 the daring enterprise practically began. It was up-hill work; little capital; no experience; no protection; everything to learn; every stave of steel and iron to be created and fashioned before it could do their bidding. They toiled on till 1857, and then failed. Their establishment was sold under the hammer. But they had solved the problem; they were making watches by machinery.

Mr. Royal E. Robbins, on behalf of other parties, bought the establishment, and afterward, to secure himself, had no alternative but to carry it on alone. There were many dark days. Existing machines were imperfect. New ones, too, must be invented, for much work was still done by hand. Many mutations occurred; but Mr. Robbins, with unaltering faith, invested his every dollar in the enterprise, and adhered to it through all changes. He converted it into a stock association, called the American Watch Company, and he is still its treasurer and business manager.

Foreign watches are made by hand, no two exactly alike; each an individual; each subject to the nerves, caprice, idiosyncracies of the maker. But our manufacturers began by making a watch—like a steam engine—solely by machinery, and with exact uniformity of parts. They have advanced steadily, learning, improving, perfecting, year by year. Their idea was purely American; their machines have all been invented, made and run by Americans. All have originated with their own employés, just as the most ingenious improvements in California and Idaho quartz mills spring from the working mechanics and miners. Indeed, the company are satisfied that the reasons why we can make watches by machinery, while no other nation can, lies in the average native ingenuity of the American mind.

The nice minuteness of these machines is incredible. It is the crowning miracle of modern mechanism. The little scales in our national mints will weigh 1-5,000th part of an ounce of gold; but these automatic watch-makers are greater marvels. Here are instruments cutting threads, invisible to the naked eye, in screws of which 300,000 weigh only a pound! Here are exquisite sapphire knives, cutting metallic shavings of which 5,000 are required to make one inch in thickness! Here are microscopic diamond drills, boring into jewels holes like a needle-point! Here are inventions for measuring as well—machines which determine the 1-10,000th part of an inch, in pivot or jewel hole, as easily and unerring as the carpenter's rule measures one foot on a stick of timber!

The factory in Waltham is in a quiet inclosure of seventy acres, far from noise and dust. It is an immense structure, more than 300 feet long, with wings and cross-wings, inclosing great quadrangular courts. Its rooms are light and cheery, like parlors rather than the old close, foul quarters of operatives. Three quarters of a mile of work benches; seven miles of steam, gas and water pipes; 750 employés, under the ten-hour system — one-third are women, who do the work requiring lightness of touch, quickness, patience. In these qualities they excel the men. In accuracy and precision they equal them; in ingenuity they fall below. When, out of routine, one is "posed" by some new mechanical obsta-



THE AMERICAN WATCH MANUFACTORY, AT WALTHAM, MASS.

cle, her tendency is, not to overcome it by herself, but to take the refractory bit of steel, or brass, or jewel, to the bench of her nearest masculine neighbor, and ask his help.

The company make six different sizes. The largest, very heavy and solid, is humorously known as the "Boston style;" your Bostonian likes a great deal of watch for his money. The smallest is an exquisite, dainty little ornament for ladies. Ornament, because did anybody ever know a lady's watch to be right? It is always too fast, or too slow; or the key was lost last week; or that bungling jeweler spoiled it in repairing. It has not pleased Heaven to endow lovely woman with genius for keeping a watch in order.

The American watch has some obvious advantages. It is American, from Alpha to Omega. It is cheaper at first cost than foreign competitors. It is simpler; it contains less than half as many pieces, and every new piece involves a new liability to break. It is easier of repair. Besides, the higher grades are warranted perpetually against all mishaps arising from any original defect or weakness. And it bids fair to be more durable.

But how does it keep time? That, after all, is the only question. Its success must be the best answer. The character of a watch is self revealing. This, on its intrinsic merits, had to fight old prejudice, trade-combinations, established reputations. In ten years it has practically driven out of our markets the English watch, which was our staple importation and in most common use among laboring men, and largely taken the place of other less costly foreign watches. After careful testing it has been adopted as the standard on the Peunsylvania Central, New York Central, and other leading railways, where correct time is an absolute necessity. The demand for it has fast increased. At the great Waltham factory one may read its history. Here a wing, there another, beyond a third, added year by year, to meet the growing want. Every season, except 1861, when we were all paralyzed, is commemorated by some such enlargement.

The business, which was bankrupt in 1857, has grown so rapidly that eight years later the company manufactured 80,000 watches annually. It turns out a complete watch during every two and a half minutes of the working day! The single single factory in Massachusetts, under one roof and one supervision, produces more watches annually than all the watchmakers of old England combined.

This tells the story. The laws of demand and supply are unfailing registers. Other watch factories are beginning to spring up, East and West; but the American company of Waltham is the pioneer; and thus far, practically, it has occupied the field alone. Its history marks the origin and growth of an interesting and important branch of our national manufactures. It not only proves that Americans alone can make watches by machinery, watches which are cheaper, simpler, more durable, and keep better time than the same foreign grades. It is American skilled industry, working by machinery and well paid, steadily displacing European skilled industry, working by hand and ill paid.

Most American watches are consumed at home, though orders begin to come in from Cuba and South America. But sooner or later, we shall furnish pocket time-keeps to the world. It is manifest destiny.

In New York, recently, we had occasion to visit the office of Messrs. Robbins & Appleton, No. 282 Broadway, general agents for the American Watch Company. We are impressed from our intercourse that they are gentlemen well worthy of the liberal and increasing patronage with which they are meeting.

LIBRARIAN OF THE MECHANICS' INSTITUTE.—Mr. G. C. Hurlbut has just been appointed Librarian of the Mechanics' Institute, in place of Mr. J. B. Pierce, who has served faithfully for a number of years as Librarian and Assistant Librarian, and who has enjoyed the esteem and confidence of members and others. Mr. Pierce goes to farming in one of the lower counties, which will doubtless be more conducive to his health. The Board of Directors last Tuesday evening passed a resolution expressing much satisfaction with his connection with the Institute, and giving him a vote of thanks, making him at the same time a life member of the Institute for his efficient services. Mr. Riddle has also resigned as Assistant Librarian, and Mr. W. S. Stoddart has been appointed Assistant Librarian.

SANA MENS, SANO CORPORE.—If you are half sick and sad at heart, don't go to Lone Mountain, as you may be inclined to do, but take the Market or Howard street cars and spend three hours at Woodward's Gardens. You will not commit suicide—not a bit of it. *

The following is an extract from a private letter written by the Proprietors of the Plantation Bitters:

"We had no conception of the wide-spread suffering which exists, or of the almost infallible cures produced by the PLANTATION BITTERS, when we first commenced offering them for sale. We now find that every house has a weak child, an ailing parent, or debilitated aged member, who need this Tonic. Our Laboratory has grown from a single room to an immense building, and our sales from a few bottles to many hundred dozens per day, and we are glad to know that they have done you so much good. *

NOTICE.

TO ALL WHOM IT MAY CONCERN.—Notice is hereby given, that I am the first discoverer, first locator, and first Recorder of the Morey District, Nye County, Nevada, and I warn all persons from buying any interest in the said Morey mines until I prove my title to be perfect and lawful to said mines. THOS. J. BARNES.

Austin, Nev., Oct. 9, 1868. 16c17 1m

Machinists and Foundries.

PALMER, KNOX & CO.,

Golden State Iron Works,

Nos. 19, 21, 23 and 25 First Street,
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF

MACHINERY,

STEAM ENGINES AND QUARTZ MILLS

DUNBAR'S IMPROVED

Self-Adjusting Piston Packing,

Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

WHEELER & RANDALL'S

NEW GRINDER AND AMALGAMATOR

HEPBURN & PETERSON'S

AMALGAMATOR AND SEPARATOR,

Knox's Amalgamators,

WITH PALMER'S PATENT STEAM CHEST,

Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continual working.

Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10qy-tf

WILLAMETTE IRON WORKS,

PORTLAND, OREGON.

Steam Engines, Boilers,

SAW AND GRIST MILLS,

MINING MACHINERY, WROUGHT IRON SHUTTER WORK, AND BLACKSMITHING IN GENERAL.

Corner North-Front and E streets,

18v13-1y One block north of Couch's Wharf.

UNION IRON WORKS,

Sacramento.

WILLIAMS, ROOT & NEILSON,

MANUFACTURERS OF

CROSS' PATENT BOILER FEEDER,

STEAM ENGINES, BOILERS,

And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old Cylinders, manufactured to order.

Front Street, between N and O streets,

14v11 SACRAMENTO CITY

Oakland Point Foundry,

Near Oakland Point R. R. Station,

MANUFACTURES

House Fronts, Sash Weights,

Range, Light and Heavy Castings of all kinds.

Having this day dissolved partnership with G. A. Walker, the business will hereafter be conducted in the name of the undersigned.

☞All orders promptly attended to.

MARTIN T. MEAD.

July 16, 1868. 3v17-1m

GLOBE

Foundry and Machine Shop,

STOCKTON, CAL.

KEEP, BLAKE & CO.,

MANUFACTURERS OF

Quartz, Saw and Grist Mill Irons, Steam Engines, Horse Powers,

Mining and Irrigating Pumps, Car Wheels, Derrick Irons, House Fronts, Iron Fencing, Balcony Railings, etc., at San Francisco prices. Orders solicited and promptly executed.

1v13-1y



JAMES MACKEN,

COPPERSMITH,

226 Fremont st., bet. Howard & Folsom.

All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to.

13v11

CITY IRON WORKS COMPANY.

CLERC & CO.,

IRON FOUNDERS,

Steam Engine Builders, and Makers of all kinds of Machinery,

6v16qr No. 23 Fremont street, San Francisco.

To Foundrymen and Blacksmiths.

LUMP LEHIGH AND CUMBERLAND COAL, IN ANY quantity, sacked and shipped to any part of the country, by JAS. R. DOYLE, Coal Dealer, 413 and 415 Pacific street, bet. Sansome and Montgomery, San Francisco.

24v15-3m

Miners' Foundry

—AND—

MACHINE WORKS

Nos. 245 to 255 FIRST STREET,

San Francisco.

HOWLAND, ANGELL & CO.,

PROPRIETORS,

Manufacturers of Machinery for

QUARTZ MILLS.	**FLOUR MILLS,**
SAW MILLS,	**SUGAR MILLS,**
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Steam Engines of all Kinds.
Amalgamators of all Kinds.

MINING PUMPS, HOISTING WORKS
OIL WELL TOOLS, ROCK BREAKERS,

—AND—

Machinery and Castings of all kinds, either of Iron or Brass.

Boilers and Sheet Iron Work in all its Branches.

Shoes and Dies of White Iron, manufactured for and imported by us expressly for this purpose, and will last 25 per cent. longer than any other made on this coast.

Russia Iron Screens, of any degree of fineness, We are the only manufacturers on this coast of the

HICKS ENGINE,

The most compact, simple in construction, and durable, of any Engine in use.

W. H. HOWLAND, H. B. ANGELL,

13v14-qr **CYRUS PALMER.**

FULTON

Foundry and Iron Works.

HINCKLEY & CO.,

MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Knyes' Improved Steam Pump, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.

N. E. corner of Tehama and Fremont streets, above Howard street, San Francisco. 3-qy

McAFEE, SPIERS & CO.,

BOILER MAKERS

AND GENERAL MACHINISTS,

Howard st, between Fremont and Beale, San Francisco.

Flue or Tubular **Boilers**, with plain circular or spiral courses. Upright Flue or Tubular Boilers, Locomotive and and Marine Boilers, and Wrought Iron Tanks of every description.

Hydraulic Pipe supplied at reasonable rates. In ordering, give the quantity of water to be supplied, hight of the fall, and total length of pipe, so as to enable the firm to determine the diameter of the pipe and thickness of iron to be used.

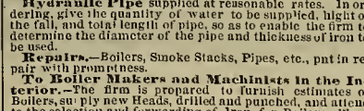
Repairs.—Boilers, Smoke Stacks, Pipes, etc., put in repair with promptness.

To Boiler Makers and Machinists in the Interior.—The firm is prepared to furnish estimates of Boilers, supply new Heads, drilled and punched, and attend to the selection and forwarding of Iron for Boilers, Pipes and other purposes.

Plans, Drawings and Specifications.—The firm is prepared to make out Plans and Specifications, receive estimates, and superintend the Erection of any Machinery that may be entrusted to their care

To Inventors.—The firm is prepared to assist in developing the plans of those who have the ideas but not the practical experience necessary to put the same in form, by making Drawings of their Inventions, giving them the benefit of their practical knowledge in the construction of Machinery, and attending to the manufacture and introduction of their inventions. 1v16tf

HYDROSTATIC WORKS.



SAN FRANCISCO

Pump Manufactory

And Patent Water Closets.

M. D. LASSWELL,

No. 747 Mission Street, bet. Third and Fourth.

House Plumbing and Gas Fitting in all of its modes. Lead, Iron and Copper Piping fitted for water, steam and gas. Ship Plumbing, and Ship Pumps made and repaired Hose of all sizes, Couplings and Nozzles, Roses and Rose Sieves, and all kinds of Brass Cocks. Force, Lift and Suction Pumps of all sizes made and set to order.

I am now prepared to make all kinds of Pumps for miners and for irrigating in a large way. I am making four sizes of single acting Brass Pumps, similar to the Baden & Saunders Brass Pumps. I am also making a very superior Pump to any in this market for windmills, single-acting. I am making four different kinds of double-acting Force Pumps, and different sizes of each kind. I am also making Artesian Well Pumps of a superior kind. This Pump may be lowered in any well to any depth desired. It is a force pump, or it is a suction pump, or it is a lift pump, and may be worked by hand or windmill, or any kind of power. Can be used for oil wells better than any other, and the Pump is the most durable and easiest repaired of any Pump in the country. I have now on hand thirteen Pumps in brass and iron, all of my own make.

I have invented and am making a superior double-acting Force Pump, called the GOLDEN STATE, which has great advantages over any Pump in this State. It is the easiest Pump repaired, and is the most durable of any Pump in the pump kingdom. Any one in want of a Pump or anything in my line, will do well by calling at my place before purchasing elsewhere.

☞This Pump received the **Silver Medal** and highest premium at the Mechanics' Fair; also the highest premium at the late State Fair.

☞I also keep all kinds of DOUGLASS and other makers' Pumps on hand. 11v17-tf

THOMPSON BROTHERS,

EUREKA FOUNDRY,

129 and 131 Beale street, between Mission and Howard, San Francisco.

LIGHT AND HEAVY CASTINGS,

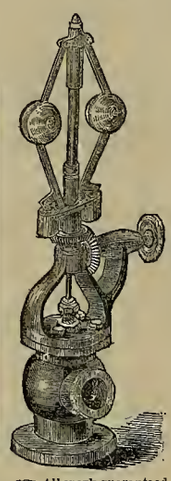
of every description, manufactured 24v16qr

G. T. PRACY.

MACHINE WORKS,

NOS. 109 and 111 MISSION STREET,

Between Main and Spear.



New and second-hand

Engines and Boilers,

FOR SALE.

Also one first-class Hoisting Engine; one Upright Engine, of entirely new pattern.

MANUFACTURER OF

Lathes, Drills,

And MILL MACHINERY of every description.

PRACY'S

New and Improved

STEAM ENGINE

REGULATORS,

The best and cheapest yet invented—manufactured and for sale. Parties are invited to examine it in practical operation.

F. A. HUNTINGTON'S

Shingle Machines

on hand.

Particular attention paid to Repairing.

☞All work guaranteed to be done in a first-class manner, and at the lowest rates. 12v17tf

IRA P. RANKIN. A. P. BRAYTON. A. C. AUSTIN.

Pacific Iron Works.

First and Fremont Streets,

SAN FRANCISCO.

Having been established since 1851, we have accumulated a very large variety of Gear and other Patterns, which, with our superior tools and appliances, give us facilities for doing first class work unequaled on the Pacific Coast.

Among other things, we manufacture the following:

STEAM ENGINES,

Horizontal and Vertical, for either Stationary or Marine use.

BOILERS—High and Low Pressure,

Pump, Pipe and Sheet Iron Work of every kind.

Quartz Mill Work,

Including High and Low Mortars, for wet or dry crushing; Furnace Irons for Roasting Ores; Freiberg Barrels; Varney's and Wheeler's Amalgamating Pans and Settlers; Stamp Shoes and Dies of best White Iron; Russia Iron Screens, etc., etc.

Flour Mill, Saw Mill and Sugar Mill Work in every variety; Pumping and Hoisting Machinery; Hansbrow's Patent Chalience Pump, for Domestic, Ship and Mining use—the most approved and successful Pump manufactured

Castings of every description, Iron and Brass.

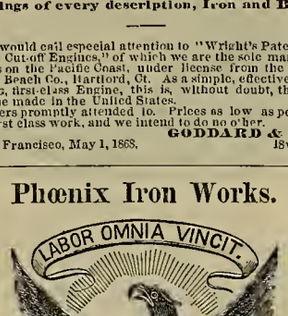
We would call especial attention to "Wright's Patent Variable Cut-off Engines," of which we are the sole manufacturers on the Pacific Coast, under license from the Woodruff & Beach Co., Hartford, Ct. As a simple, effective, FUEL SAVING, first-class Engine, this is, without doubt, the best Engine made in the United States.

Orders promptly attended to. Prices as low as possible for first class work, and we intend to do no other.

GODDARD & CO.

San Francisco, May 1, 1868. 18v16tf

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MARINE ENGINES,

AND ALL KINDS OF

MACHINERY FORGING.

All kinds of Ship-smithing and Mill work manufactured to order. Jobbing of every description promptly attended to. All work done guaranteed. 13v14-1y

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ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞ PRICES MODERATE. ☜

J. P. GALLAGHER. J. H. WEED V. KINGWELL.

9v13-1y

REFRIGERATOR CARS.—One of the greatest improvements of the day is the adoption of the new plan for transporting meat from the West to the seaboard. Instead of crowding the live animals into cars, to make a long journey under circumstances which necessarily involve the most horrible suffering, those men who carry on the business humanely slaughter them in comfortable style and while they are in their best condition. The meat is packed directly into cars of a new pattern, the construction of which is thus described by the *American Railway Times*:

These cars are of the eight wheel freight pattern, built of two thicknesses of three-quarter inch pine plank, three inches apart. In the intervening space three-inch slabs of cork are inserted, cork being considered the best non-conducter of heat. On the top of the car is a flutter wheel of zinc, working horizontally by the current of air created during the motion of the train. On the same spindle with this wheel is a revolving fan, which throws the air, through flues, the entire length of the car to the ice-chambers at each end. It is here cooled and condensed, and falls through other flues to the floor, passing under the hanging meat, and enveloping it as it rises to the ceiling. The temperature maintained is forty-two degrees.

These cars can carry from 20,000 to 25,000 lbs. each, and the meats invariably come forward in excellent condition. The benefits of this system in brief are: a saving in weight to the owners of the cattle, the abolishment of slaughter houses in or near cities, the retention of the refuse matter to be returned to the soil through the compost heaps where the cattle were raised—a most important matter—and the improved character of the meat brought to market.

STREET "TRAMWAYS" IN ENGLAND.—The first act of Parliament authorizing the construction of street tramways on a scale sufficient to test their adaptability for the omnibus traffic of large cities and towns, has recently received the royal assent. The act empowers the company to lay down and work a line of tramway running from north to south of the borough of Liverpool, passing through crowded, and in some instances, narrow streets, with a hoop line in the center of the town, enabling carriages using the tramway to reach the Exchange. The act now passed was the third introduced for the purpose in three successive sessions. The two previous bills were thrown out through the opposition of the omnibus proprietors, aided by the London and North-Western Railway Company. The corporation supported the project; many of the leading inhabitants gave evidence in favor of the scheme, and there is every prospect that street tramways, on a sound principle, will at length have a fair and adequate trial.—*Colliery Guardian.*

The Risdon Iron & Locomotive Works.

Incorporated, April 30, 1868. Capital, $1,000,000.

Location of Works, Corner Beale and Howard streets, SAN FRANCISCO.

Successors to Pacific Mail S. S. Co. Works at Benicia, Coffey & Risdon, and Devoe, Dinsmore & Co., San Francisco.

Steam Engine Builders, Boiler Makers,

MACHINISTS AND FOUNDRYMEN.

All work in their line attended to with promptness and dispatch. DIRECTORS—S. F. Butterworth, Lloyd Tevis, Jas. Pollock, Gen. Holladay, Chas. E. McLane, John N. Risdon, Joseph Moore, John N. Risdon, President; Joseph Moore, Vice President and Superintendent; Chas. E. McLane, Treasurer; Lewis R. Mead, Secretary; Lewis Coffey, Superintendent Boiler Works. 8v17-qy

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No. 51 Beale st., bet. Market and Mission.

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STEAM ENGINES,

Flour and Sawmills, and MACHINERY of all descriptions made and repaired at shortest notice.

☞Particular attention paid to repairing Reynold's Cut-off 5v15qr

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HAWKINS & CANTRELL,

MACHINE WORKS,

Nos. **210** and **212** Beale street, between Howard and Folsom streets, San Francisco.

Manufacturers of STEAM ENGINES and all kinds of Mill and Mining Machinery. N. B.—Jobbing and Repairing done with dispatch. 10v17 3m

To Inventors.

The undersigned is now prepared to assist inventors or others by manufacturing Models for the Patent Office, large working Machines or Devices of every description, in Metal or Wood, in the most workmanlike manner and at reasonable rates. Also, Patterns for Iron and Brass Work and all kinds of Machinery.

Having had ten years practical experience in this city, parties can be assured all work entrusted to me will be executed in a prompt and satisfactory manner. Power will be granted to parties wishing to test or experiment with machinery.

☞Full files of the Patent Office Reports for the use of patrons **J. H. CULVER,**

3v17-3m **20** Fremont street, over Phœnix Iron Works.

ANNEXATION FEELING IN SINALOA.—A Mazatlan correspondent of the *Bulletin* writes:

Although the accession of Sonora, Sinaloa, etc., to the United States has been looked upon as a settled affair, your New York telegram announcing the sale of these States, took both natives and foreigners by surprise. The news soon spread over the city with almost electric speed, creating considerable sensation amongst the Government employés, whose name is legion; but relief soon arrived by a copy of Mr. Godoy's letter to the *Bulletin*, appearing in the government periodical, denouncing the rumor. There are a number of foreign merchants solely interested in the European trade and monopolizing the bulk of commerce, who naturally feel an aversion to a change that would open the market to competitors of less capital. Whereas under the present regime, with full cargoes direct from Europe, with the probabilities of an occasional revolution on the arrival of a vessel, when the merchant has the dictating of what duties he will or will not pay, are advantages not attainable under the regulated system of the American Government. In former years it was customary, upon the arrival of three or four European vessels, to pay some ex-official $10,000 or $15,000 to start an imaginary pronunciamiento, with a raid upon the city. And as the State Treasury was never guilty of holding surplus funds, the immediate necessity of means for the suppression of the rebellion would bring the Government to almost any terms the merchants proposed, so that the needful was forthcoming. The vessels in the meantime lying on and off the port until such arrangements were satisfactorily completed.

Among the native population, the more intelligent class, allowing due credit for their patriotism, anxiously await the day that these States will hold an equal advantage with California. Mechanics and laborers, in the desperation of hope deferred, look forward in reliance to the future change that will give an impetus to labor and protection to industry, when there will be a time to sow and a time to reap, and when the everlasting tremor of revolutions shall have died away. There is nevertheless a large number who live and have their being by the overthrow of law and order, born and inured to a life of libertinism and plunder, aspiring only to a fleet horse and brace of pistols, who detest the name of foreigner, knowing their avocation would be gone under a stable government, but who cloak their aversion under the garb of patriotism.

THE VALLEJO RAILROAD TERMINUS.—The pile driver is at work driving piles for the Elevator. One vessel is discharging lumber, and two others discharging ties for the railroad. The filling in between the grain and passenger wharves goes bravely on. A fine baggage and express car is nearly completed. 50,000 brick will be used in the foundation. Mr. Aiken is the brick mason. L. C. Fowler's new stores, each 25x60 feet, will be completed next week; Houghton & Lee, contractors. The Commercial Hotel, a small building lately finished by Mr. Tuckey, is full of boarders. Another boarding house is being erected near the freight wharf by Benjamin Watson, two and and a half stories high, 30x30 feet, Mr. E. W. O'Brien, builder, will be finished in two weeks at a cost of $1,200. Taylor & Jackson's new store is finished and ready for occupancy, and a store will be opened in a few days by the owners. This building is 25x40 feet, and cost about $800. *Vallejo Recorder.*

THE SMOKY ATMOSPHERE experienced a few weeks ago was extended over an immense space. Our Austin, Nevada, exchanges spoke of it. By steamer arrivals, we learn that the fog and smoke in Victoria, V. I., were so thick on Sept. 26th, that business was almost entirely suspended.

The Hawaiian *Gazette* of Sept. 16th, says: The atmosphere last Saturday morning was very smoky. Since then the heavens have been clouded, and the wind variable, with occasional light showers. The autumnal equinox is at hand, when unsettled weather may be expected.

SANSEVAIN will this year make, at his Cocomongo ranch in San Bernardino county, 60,000 gallons of wine.

A WING-DAM is being constructed at the Hog's Back, of piles and brush.

GEO. E. ROGERS,
(Successor to O. W. Bell.)
ASSAYER,
512 California st., San Francisco.
J. A. MARS, Assayer.
Ores carefully Assayed. Gold and Silver Ores worked.
23v16-qr10pr

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IMPORTERS AND REFINERS
—OF—
Illuminating, Lubricating,
—AND—
PAINT OILS,
CONSISTING OF
KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS, NEATSFOOT, BOILED AND RAW LINSEED, CASTOR AND CHINA NUT.
—ALSO—
Spirits of Turpentine and Alcohol.
Lamps and Lamp Stock!
An elegant and complete assortment.
SOLE IMPORTERS OF
Devoe's Illuminating Oil.
PATENT CANS.
5v17-tf. 414 Front street, San Francisco.

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Industrial Publisher,
No. 406 Walnut Street, Philadelphia.
HAS RECENTLY PUBLISHED
A Practical Guide for the Perfumer; Being a New Treatise on Perfumery the most favorable to the Beauty without being injurious to the Health, comprising a description of the substances used in Perfumery, the Formulæ of more than one thousand Preparations, such as Cosmetics, Perfumed Oils, Tooth Powders, Waters, Extracts, Tinctures, Infusions, Spirits, Vinaigres, Essential Oils, Pastels, Creams, Soaps, and many new Hygienic Products not hitherto described. Edited from Notes and Documents of Messrs. Debay, Lunel, etc., with additions by Professor H. Dussauce, Chemist. 12mo..... $3 00
Cabinet Maker's Album of Furniture: Comprising a Collection of Designs for the Newest and Most Elegant Styles of Furniture. Illustrated by 48 large and beautifully engraved plates. In one volume, oblong..... 5 00
The plates of this beautiful volume comprise designs for bedsteads in great variety; chests of drawers; wardrobes; dressing bureaus; tables for the chamber; work-tables; extension dining tables; card and chess tables; parlor tables, Louis XV. and other styles; office tables; chiffoniers; ladies' and other secretaries of different forms and styles; toilet tables and glasses; desks; book-cases; sideboards, etc., etc.
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The plates in this volume comprise designs for sofas, arm and other chairs, stools, taborets, price-dieu, tables, chests of drawers, wardrobes, chimney-pieces, side-boards, pier tables, etageres, desks, book-cases, etc.
A Practical Guide for Puddling Iron and Steel.—By Ed. Urbin, Engr. of Arts and Manuf. A Prize Essay read before the Association of Engrs. Graduates of the School of Mines, of Liege, Belgium, 1863-6. To which is added a Comparison of the Resisting Properties of Iron and Steel, by A. Brull. From the French, by A. A. Fesquet, Chemist and Engineer. 8vo., cloth..... $1 00
☞The above, or any of my publications, sent free of postage, at the publication prices. My new and enlarged CATALOGUE OF PRACTICAL AND SCIENTIFIC BOOKS, 56 pages, 8vo, is just ready, and will be sent free of postage to any one who will favor me with his address. 20v16tf

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A SUBSTITUTE FOR
CURLED HAIR,
—FOR—
ALL UPHOLSTERY PURPOSES.
Cheaper than Feathers or Hair,
AND FAR SUPERIOR.
THE LIGHTEST, SOFTEST, MOST ELASTIC, DURABLE and best material known, for Mattresses, Pillows Cushions, etc. It is entirely indestructible, and its purity is almost immaculate. No moth, no smell, no dirt. It does not pack nt all! is always free from insect life; is perfectly healthy; and for the sick is unequalled by any bed in the world. Special attention given to furnishing Churches, Halls, etc. Satisfaction guaranteed.
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General Agent Pacific Elastic Sponge Company, 617 Market street, San Francisco. 19v16 6meow

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Marine as well as Fire Insurance,
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☞Losses promptly and equitably adjusted and paid in Gold Coin.
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EMERSON'S PATENT
Movable-Tooth and Perforated Circular Saws,
Perforated Mulay, Mill and Cross Cut Saws, with Adjustable Sockets.
SAW-GUMMERS, SWAGES, CANT DOGS,
Etc., have established an office for the sale of the above articles, at
No. 606 Front street, San Francisco.
☞Descriptive Pamphlets will be forwarded to any one
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Men's Furnishing Goods,
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NEW INVENTION!
A gentleman who has recently invented a device for elevating snow, mud, etc., desires a partner for the purpose of bringing his device into practical use in this State. He is confident that it is an invention of great importance, and if rightly managed will prove remunerative to owners. For further information, address "J. A. B.," Box 17, P. O., San Francisco. 14v17-1m

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SHADES, Etc., Etc.
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I can offer from the largest and best assorted stock in the city anything in our line.
AT PRICES TO SUIT ALL.
FURNITURE AND MATTRESSES
Made to order.
All kinds of upholstering executed with neatness and dispatch. 9v17


TO SPORTSMEN.


THE UNDERSIGNED, HAVING BEEN APPOINTED Sole Agent for the Pacific Coast for the sale of ROPER'S BREECH-LOADING SHOT GUN, which discharges four shots in two seconds, circulars will be furnished by applying to or addressing
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S. E. corner of Howard and Spear streets.
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Notice is hereby given, that I have removed from my old stand on Beale street, and have formed a co-partnership with Mr. A. CAMERON, for the purpose of carrying on the business of Stair-Building, Wood-Turning and Scroll Sawing. The business will be conducted as formerly at Cameron's, corner of Market and Beale streets, and also at Nos 485 and 487 Brannan street, where ample steam power and all necessary facilities have been provided for every branch of the business.
Different sizes of Redwood Balusters constantly on hand for sale. Also Spanish Cedar, Walnut and California Laurel.
15v17-3m N. P. LANGLAND.

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OUR IMMENSE STOCK
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Fine Custom Made Clothing
—AND—
Gents' Furnishing Goods
AT PRICES THAT DEFY COMPETITION.
Our Stock of Clothing Consists of
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Screen Punching in all its branches, at rates reduced from 25 to 40 per cent less than the established rates. I can furnish Improved Quartz Screens several sizes finer than any Screen ever punched, giving universal satisfaction, and for strength, cheapness and durability are not excelled. Also, Punched Screens of all sizes and fineness made from all qualities of material, for Quartz, Cement, Flour and Rice Mills, etc. Screen Punching made a specialty; therefore millmen forwarding their orders to me will receive none but the best. Orders solicited.
N. B.—J. W. QUICK is the only competent and successful manufacturer of Screens in the State, having made Screens for the principal mills in this State and adjoining Territories for many years. Quartz mill owners using punched Screens which have universally failed to give satisfaction, when visiting the city will please call and see me. 5v17-1y

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" CORNELIA.....CAPT. W. BROMLEY
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The next term of this Institution will commence on JULY 20, 1868. Competent and experienced Teachers fill each department of study.
This School affords all the advantages of a thorough English course, the Ancient and Modern Languages, Calisthenics, Gymnastics, Music, and all the Ornamental Branches.
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REFERENCES:—Rev. Sam'l H. Wiley, Oakland; Hon. Sherman Day, Oakland; Rev. A. F. White, Carson City. 3v17qr

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FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.
☞Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents
21v12 F. E. WEYGANT, Proprietor.

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NEW MECHANICAL MOVEMENT.—I. E. Palmer, of Hackensack, N. J., has recently obtained a patent upon an invention which consists in the combination of a toothed wheel with a ring having a female thread in and around it, and arranged to gear with the wheel on one side of it, the axis of the ring being transverse to that of the wheel, that in being rotated around or about the axis of the ring or the ring rotated around the wheel, serves to give a slow but powerful motion to the latter about its own axis. This movement is the reverse of the ordinary screw and worm wheel, and applicable to a variety of purposes, including, among others, the take-up action of a rope machine or apparatus.

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What they are;
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With a Chapter on the

BLOW-PIPE ASSAY OF MINERALS.

By WM. BARSTOW, M. D.

Published by A. Roman & Co., San Francisco.

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With the aid of this Book, the miner can assay his own ores, requiring but few materials, etc., except such as are generally to be found in the interior towns. 21v15tf

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Price of Presses, $8, $12, $16, $24, $30. Price of Offices, $15, $20, $30, $42, $18, $50. Send for Circular to LOWE PRESS COMPANY, 3 Water street, Boston. 4v17tf

Novelty and Usefulness Combined.

Wilson's Prepared Solder

Dispenses with the Soldering Iron.



It will save you both time and labor. One bottle of this Solder will mend all the tins you have laid one side for months, and make them good as new. Get them out and mend them. It is cheap—only 50 cents a bottle; it is convenient and compact. Use any kind of lamp that has a blaze no larger than a single wick; a spirit lamp will make no smoke. You may mend a dish or can over the best table without fear of spoiling it. Try it, and you will never want a soldering iron in the house again. What a saving to farmers. No more stopping up of holes in milk pans with a rag. Milkmen can mend their own cans. It does the prettiest job on any article you have in the house, from a pint dish to a wash-boiler. It is a sure thing to stick when resin and solder will not. It will stand beat as well as any solder ever used over fire

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Mining Secretary.

THE SUBSCRIBER, HAVING SERVED FOR THE LAST five years as Secretary of various mining companies, feels fully competent to serve in that capacity. Any parties wishing to secure the services of a Secretary can be accommodated on reasonable terms. Information given, and all necessary papers correctly made out.

Having had a long experience in the purchasing of goods and machinery for miners, parties in the mines will find it to their advantage, where purchasing agents are employed, to send their orders to the undersigned.

J. M. BUFFINGTON,

Room 37 New Merchants' Exchange, California street, San Francisco. 17v15-tf

THE MINING AND SCIENTIFIC PRESS has entered upon its XVIIth Volume. It has donned a new-style hat; or, in newspaper parlance, a new heading, which gives it the solid, scientific look it merits. Other improvements typographical are also noticeable. No call for improvement in its matter.—*Amador Ledger, July 18th.*

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BARTLING & KIMBALL,

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Carpenters and Cabinet-Makers

717 Market street, near Third.

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Furniture Repaired, Varnished and Polished.

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Anatomical Boots

AT TEN DOLLARS PER PAIR.

Having received lately from Washington a patent for his new invention in Lasts, he is now prepared to make and sell as good Boots as the world can produce, at the above named price. A liberal discount will be given to the trade

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SPIRITS OF NITRE,
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ACETIC ACID,
CYANIDE OF POTASSIUM
—AND—
ACIDS AND CHEMICALS OF ALL KINDS.

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Watchman's Time Detector.

THIS WATCH CLOCK WAS INTRODUCED TO THE public in almost every section of the United States and Canada about five years ago, and it has proved itself to be the best invention in the world for testing the faithfulness of Watchmen. Since its introduction, the Proprietor has improved on some parts, and corrected deficiencies and he has now

A Perfect Check upon the Watchman.

With other Clocks, a regular routine has to be followed, but with this a Watchman can be ordered to visit any particular place as often as required, without being compelled to go to places where it is not necessary to visit as often.

The instrument is complete in itself, portable, and as reliable as the best lever watch

It is not so likely to become disarranged in its works as a good watch, because its parts are stronger. But when it needs cleaning, any common watchmaker can adjust it, its mechanism being simple. It requires no fixtures or wires communicating from room to room, as is the case with the ordinary Watch-clocks; a small, inexpensive stationary key is alone required at each station. By its use places can be guarded that it would be impossible to guard with any other instrument, such as Railroad Tunnels, Bridges, Yards, Shops, etc. The instrument will in all cases be warranted perfect and satisfactory. Its price is, invariably *Seventy-five Dollars*, cash on delivery, including as many keys as are requisite, not exceeding twelve.

THIS WATCH-CLOCK IS SOLD AT A LESS PRICE THAN ANY OTHER IN THE MARKET.

The DETECTOR is used extensively by large Manufacturing Establishments and Railroad Companies in the United States, from whom numerous testimonials have been received.

☞ This Detector is covered by two U. S. patents. Parties using or selling these instruments without authority from me will be dealt with according to law.

N. B.—Parties purchasing these Clocks should test them sufficiently in the counting-room or office, as they will not be taken back after having been injured by the Watchman through carelessness.

All communications promptly attended to. Address

J. E. BUERK, Proprietor,
47 Congress street, Boston.

P. O. Box, No. 1057. 23v16-6m

QUARTZ MILL WANTED.

Any person knowing of a good second-hand Quartz Mill and Engine—about five stamps—will please address, with price, "A. B. C., care of Mining Press, San Francisco." The Mill is wanted for Mariposa County. Estimates for a new five-stamp Mill and Engine of suitable capacity solicited. 13v17-2w

THE MINING AND SCIENTIFIC PRESS, which commenced its seventeenth volume on the 4th, comes to us with a newly engraved head, and presenting otherwise its usual tasteful appearance. We take this occasion to say that the PRESS is one of the best papers of the kind in the United States, and every miner and mechanic in the State, as well as the business man, who would keep posted on our industrial resources, should have his name on the subscription books.—*Nevada Gazette.*

Business Cards.

DEWEY & CO.

U. S. and Foreign

Patent Agents

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Mining & Scientific Press

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Interest paid on Deposits. Money Loaned on Real Estate.

H. DUTTON, President.

GEO. M. CONDEE, Cashier. 19v16-3m

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Drawings of MODELS made for parties apply for patents at Washington or London. ar23-tf.

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For sale by all the

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WHOLESALE AND RETAIL

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☞ City and country orders promptly attended to. Merchants, shippers, and families supplied in large or small quantities. 14v17 3m

Pacific Mail Steamship Co's

STEAMSHIPS FOR

NEW YORK, JAPAN AND CHINA.

LEAVE WHARF, CORNER OF FIRST AND Brannan streets, at 11 o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPINWALL for NEW YORK.

On the **6th, 14th, 22d** and **30th** of every month.

Steamer leaving San Francisco on the 6th touches at Manzanillo. All touch at Acapulco.

Departure of the 14th is expected to connect with the French Trans-Atlantic Co.'s steamer for St. Nazaire, and English steamer for South America. Through tickets can be obtained.

Departure of 14th is expected to connect with English steamer for Southampton and South America, and Australia, and P. R. R. Co's steamer for Central America. Through tickets can be obtained.

STEAMERS FOR OCTOBER, 1868.

The following Steamships will be dispatched on dates as given below:

October 6th—COLORADO..... Capt. W. F. Lapidge, Connecting with ALASKA, Capt. Gray.

October 14th—GOLDEN CITY....Captain E. S. Farnsworth, Connecting with OCEAN QUEEN, Capt. King.

October 22d—SACRAMENTO.....Capt. W. H. Parker, Connecting with HENRY CHAUNCEY, Capt. Connor.

October 30th—MONTANA.....Capt. J. M. Cavarly, Connecting with RISING STAR, Capt. Mantry.

Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult.

An experienced Surgeon on board. Medicine and attendance free.

These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.

Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—if desired an amount of $200 to $220 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England.

The Steamship GREAT REPUBLIC, Capt. S. Osgood, will be dispatched on SATURDAY, October 3d, at 12 o'clock M., from wharf corner of First and Brannan streets, for YOKOHAMA and HONGKONG, connecting with the COSTA RICA for SHANGHAI.

For Merchandise and Freight for New York and way ports, apply to Messrs. WELLS, FARGO & CO.

For passage and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets.

OLIVER ELDRIDGE, Agent.

BY EXPRESS.—Two cents per copy will be added to our usual rates of subscription (to pay Wells, Fargo & Co's tariff on papers sent by express. If connecting expresses in the interior make additional charges, subscribers must themselves settle the same.

Professional Cards.

J. S. PHILLIPS.

MINING ENGINEER, Etc.,

Wadsworth House.....San Francisco.

Having had 33 years experience in the various departments of Mining Engineering and Metallurgy, in Cornwall and America, solicits orders for the examination of Mineral Properties throughout the North and South Americas; minerals assayed or analyzed; advice for beneficiating refractory ores; Metals sold; capital procured for developing valuable ledges. 4v17tf

N. WESCOATT,

Surveyor and Mining Engineer,

Having returned to Yuba County, Cal., after an absence of several years in the State of Nevada and the Eastern States, will attend to all business in his line in this State, or the State of Nevada, or adjoining Territories.

All orders will be attended to with dispatch, and satisfaction given.

REFERENECES:

Judges Hardy and Quint, San Francisco.
Hon. C. E. De Long, or Judge Mesick, Virginia City.
Col. N. E. Whiteside, Marysville.
Judge Filkins, "
Col. F. L. Hatch, "
L. J. Ashford, "

Office at Smartsville, Yuba County, Cal.

17tf

DAVID R. SMITH,

Civil and Mechanical Engineer,

Is prepared to furnish Plans, Models, Specifications and full detail Drawings for Steamers and Sailing Vessels and Machinery in general.

Montgomery Block. 13v17-3m

DR. GEORGE W. ROGERS,

PHYSICIAN, SURGEON & ACCOUCHER,

(Recently from Mazatlan.)

410 Kearny st., bet. California and Pine,

SAN FRANCISCO. 1v17-3m

J. M. HAVEN,

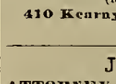
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Room 10 Montgomery Block,

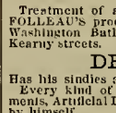
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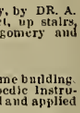
PATENTED DECEMBER 3d, 1867, by DR. G. W. COOL. The right of San Francisco reserved for his own use. The nature of his improvement consists in filling the entire concave surface with fine gold; it makes the plate twice as strong and one-third thinner than the common vulcanite plate. This work has given satisfaction in every case. Please call at No. 147 Third street, near Market, and see specimens. All work warranted as fine as the specimens. Prices reasonable. 21v16 3m



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Treatment of all Deformities of the Body, by DR. A. FOLLEAU'S process. **624** Washington street, up stairs, Washington Baths Building, between Montgomery and Kearny streets.

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Has his studies and manufactories in the same building. Every kind of Apparatus, Trusses, Orthopedic Instruments, Artificial Limbs, etc., are manufactured and applied by himself.

☞ *He has no connection with any Agency.* 24v14-11ptf

JAMES M. TAYLOR,

Attorney and Counsellor at Law,

Court Block, 636 Clay Street

SAN FRANCISCO.

2v15-1qy

Edward and John A. Stanly & A. W. Blair

ATTORNEYS

AND COUNSELORS AT LAW,

Southeast corner of California and Sansome streets, over the Bank of British Columbia 19v16-3m

Removal.

DR. D. T. MORGAN

Has removed from Sacramento street to No. **226** Sutter street, near Kearny, where he has opened an Infirmary for the benefit of the Blind. All laboring under diseases of the Eye can and will be successfully treated. 13v17-1m

Pacific Powder Mills.

SUPERIOR BLASTING AND SPORTING GUNPOWDER

Black Diamond, in 1lb canisters.
do do in 5lb canisters.
do do in ¼ kegs.
Hunter's Pride, in 1lb canisters.
do do in ½lb canisters.
do do in ¼ kegs.
do do in ⅛ kegs.
Pacific Mills River Shooting, in 1lb canisters.
do do do in ½lb canisters.
do do do in ¼ kegs.
do do do in ⅛ kegs.
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Pacific Mills Rifle, in 1lb canisters.
do do in ½lb canisters.
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Blasting and Mining Powder $2 25 per keg.

Safety Fuse and Shot for sale by

HAYWARD & COLEMAN, Agents,

24v15 3m 414 Front street, San Francisco.

Manufacturing Rooms to Rent

We have a large, light room, 40x44 feet, in second story, at 414 Clay street, for rent low; also room adjoining, 22x42 feet. DEWEY & CO.,

Publishers and Patent Agents.

REGISTER YOUR LETTERS containing money addressed to us, or we will not be responsible. Remittances by Express must be in packages, prepaid. When practicable, it is best to remit by draft, or order, on some San Francisco bank or firm

Extraction of the Precious Metals with Melted Zinc.

In mentioning the formation of a matt as one of the objections to the Fuller process of passing sulphureted ores through melted lead for the extraction of gold and silver (in our last number), the statement was added that in the zinc process the result would be the same, with the additional aggravation of a greater liability to the oxidation of the zinc. To these words Mr. d' Heureuso, the patentee of the zinc process, takes exception, as doing injustice to his process; and so far as the formation of a matt is concerned, perhaps with some cause, since the affinity of lead for sulphur is very considerably greater than that of zinc; and though a zinc and lead matt is the regular daily product of all the Swansea and Saxon smelting furnaces, whether by cupola or reverberatory treatment, it is probably always under the accompaniment of either zinc or lead ores, the distribution of which is so universal in the form of blende and galena, while the formation of a pure zinc matt, when neither blende nor galena are present, would not, except under peculiar and favorable conditions, be likely to take place. But Mr. 'd Heureuso being a meritorious inventor and a gentlemen of scientific acquirements, especially in the technological branches, it will be worth while to peruse his own views, given from an inventor's stand-point, concerning the difficultios that have to be encountered by good, as well as by indifferent inventions, before they have been unequivocally demonstrated. He writes as follows:

EDITORS PRESS:—A statement in your article, "Proposed New Metallurgical Uses of Zinc and Lead," (page 233) requires correction and explanation. Melted zinc will not combine with sulphur on passage of sulphurets through it, the affinity of zinc to sulphur, unlike lead, being restricted to other vastly different conditions. The oxidation of zinc hy a coverod surface is not oxcessive, the cost of zinc lost in the operation being about $2 per ton of ore, and the cost of working very insignificsut, not much if any exceeding that of amalgamation. The reasou for the apparent neglect of this method, may be fouud in the fact that his full time has been given of late to his patented Air Fermentation, during the present wine season, considering this of the utmost importance to the wine interest of the country. That accomplished, he will not be slow to produce proofs of the practicability and profit of the zinc process for gold extraction, of which every expert now could convince himself by using a crucible and a pipe with which to introduce the ore.

In conclusion, Messrs. Editors, a general mark on improvements may be admissible. It takes almost invariably a long time till the public accommodates itself to the idea that a better method on perfectly different principles than those in use can be and is devised. What they have they consider near perfectiou; they know it,—the new process they don't. The great mass is always more inclined to blindly condemu what they do not understand—particularly something simple, but new to them—than to calmly investigate, and thereby benefit themselves. We see continuedly learned and unlearned men go into laborious arguments to disprove the correctness of some proposed technical process, while a simple experiment would convince them of its utility. Thereby progress is retarded, while inventors—especially with limited means—find increased the difficulty of their ungrateful task,—to couvince a public that refuses to be convinced in spite of the obvious enormous advantages it would derive.

Everybody with a bellows or similar contrivance could convince himself by a trial on a small scale of the efficiency of air for fermentation and germination, and how many really make the experiment? One waits for the other to do it, and in the meantime all but the most intelligent content themselves with the absurd notion that air into must or other fermentating substance *will* make vinegar. This is one of numerous instances. If nothiug is heard for a while of the practical adoption of a certain asserted improvement, the public is pleased to insinuate (insinuation, mind, is a more powerful weapon than proof) it to be a failure, and reasons are hunted up for their disbelief, without giving the struggling invention the benefit of the doubt. Human nature, that fondly believes what goes beyond human ken to comprehend, refuses to be convinced by the evidence of common sense; mystery is attractive, while plain truths and common sense are always stoned at first. Let us be just. R. d'H.

NOTICE.—Persons interested in locating Mineral Lands in California or Nevada, will do well to observe the advertisement of N. Wescoatt, S. & M. E., in another column.

CO-OPERATIVE UNION STORE.—This is becoming one of the most useful institutions in the city, and the Mechanic and Laboring Man fully appreciate it. They are now enabled to buy their Groceries and Provisions 20 per cent. cheaper than ever before, and the very best articles in the market. The store is located at 115 Sutter street, Lick House Block, San Francisco. 6v16-ann

SAVE YOUR TEETH.—Drs. Jessup & Beers, over Tucker's Jewelry store, are now making a specialty of filling the fangs of dead Teeth, and building up broken crowns with *pure gold*—thus restoring them to their original usefulness and beauty. They are also using Nitrous Oxide for the painless extraction of Teeth, when so desired—the only absolutely safe anæsthetic ever discovered. In breathing it, it acts as a gentle stimulant, without undue excitement,—the sensation produced being truly delightful, the effect upon the lungs healthful, and in its results positively free from all danger. Prepared and administered daily at the Dental Rooms of Messrs. JESSUP & BEERS, corner Montgomery and Sutter streets, San Francisco. 16v16tf

17
will heal
old sores, piles,
ulcers, cancers,
salt rheum, and break-
ing out on any part of the
body, and also removes pain
of every name or nature instantly. It is a balmy liquid, and leaves
no smart or stain, and is called Moore's
Pain Paint. For catarrh and colds in the
head, Moore's catarrh remedy affords a safe,
sure and speedy cure. Both remedies sold
by druggists everywhere, and at Moore's
office, 549 California street, northeast
corner of Kearny, where all pain
is instantly removed, free
of cost, as hundreds can
now testify from ac-
tual tests.
8v17-3m

WHERE TO ADVERTISE.—The attention of traders and mill machinists is called to the fact that the *Mountain Messenger*, of Downieville, Sierra County, possesses many special advantages as an advertising medium over a majority of the interior press, it being the only public journal published within a radius of sixty miles, in the richest and most populous mining sections of the State. Its weekly edition is double the average of country papers, being without the range of large dailies, and having no competition at home. Its local columns afford many items for our city cotemporaries, while its rates of advertising are reasonably low. 10v17tf

REMOVAL.

THE

MINING AND SCIENTIFIC PRESS

(Patent Agency, Newspaper and Job Printing Office)
Will be REMOVED this day from No. 505 Clay street to
No. 414 Clay Street, below Sansome,
About one-half block east of our former location.
August 8th, 1868. **DEWEY & CO.**

A Book for Every Miner and Scientific Man.

JUST PUBLISHED,

KUSTEL'S NEW WORK,

CONCENTRATION

Of all kinds of Ores, and the

CHLORINATION PROCESS,

For Gold-Bearing Sulphurets, Arseniurets, and Gold and Silver Ores generally.

Price, - - - - - $7.50

A liberal discount to the Trade. For sale by the Booksellers
Sent to any part of the United States, postage paid,
on receipt of the price. Address,

DEWEY & CO., Publishers,

Office of the Mining and Scientific Press, 414 Clay street,
16v1tf SAN FRANCISCO.

A First Class Agent

Is wanted by the proprietors of the Mining and Scientific Press. Good wages secured. DEWEY & CO.,
Publishers and Patent Agents,
414 Clay street.

Offices to Let,

At 414 Clay street, and two rooms on Washington street. Enquire of DEWEY & CO., 414 Clay street.

Our Patent Agency.

The PATENT AGENCY of the MINING AND SCIENTIFIC PRESS has been signalized with remarkable success during the past two years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of LETTERS PATENT from the United States and foreign Governments cannot be over-rated, and the Proprietors of the PRESS, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

New Mining Advertisements.

Cordillera Silver Mining Company, Morelia District, Chihuahua, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixteenth day of October, 1868, an assessment of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at his office, 321 Washington street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eighteenth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before will be sold on Monday, the seventh day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

HENRY R. REED, Secretary.
Office, 321 Washington street, San Francisco. oc17

Gold Hill Tunneling Gold and Silver Mining Company.—Location: Gold Hill Mining District, County of Storey, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the ninth day of October, 1868, an assessment (No. 11) of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, R. Wegener, 414 California street, San Francisco, Cal., or to the Superintendent, H. Huguet, Gold Hill, Nevada.

Any stock upon which said assessment shall remain unpaid on the eighteenth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the ninth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. WEGENER, Secretary.
Office, 414 California street, San Francisco oc17

Glenwood Mill and Mining Company, Greenwood, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board Trustees of said Company, held on the tenth day of October, 1868, an assessment of fifty dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 434 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twentieth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the ninth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

WILLIAM VALE, Secretary.
Office, 434 California street, San Francisco. oc17

Great Central Mining Company.—Location of Works: Yuma County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the ninth day of October, 1868, an assessment of two and one-half dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company.

Any stock upon which said assessment shall remain unpaid on the eleventh day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the thirtieth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

O. B. SQUIRE, Secretary.
Office, No. 414 Montgomery street, San Francisco oc17

Rattlesnake Gold and Silver Mining Company, Brown's Valley, Yuba County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirteenth day of October, 1868, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eighteenth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the seventh day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOUSE, Secretary.
Office, 318 California street, San Francisco, Cal. oc17

Mining Notices--Continued.

Bunker Hill Quartz Mining Company. Location of Works: Near Amador, Amador County, Cal.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the nineteenth day of May, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. shares	Amount.
H H Chandler	7	20	$2 00
H H Chandler	8	20	200 00
H H Chandler	9	10	100 00
Joseph H Capen	32	10	100 00
Joseph H Capen	33	6⅔	66 67
Ann Maria Chandler	34	10	100 00
Ann Maria Chandler	35	6⅔	66 67
L E Chase	13	20	2 00
L E Chase	14	20	200 00
L E Chase	56	5	50 00
S Ed Chase	10	20	200 00
S Ed Chase	11	20	200 00
S Ed Chase	55	5	50 00
Benj F Perkins	54	10	100 00
Curtis, Bouve & Co	16	20	200 00
Curtis, Bouve & Co	17	20	200 00
Curtis, Bouve & Co	18	10	100 00
Emery Taylor	22	20	200 00
Emery Taylor	23	20	200 00
Emery Taylor	24	10	100 00
Oliver H Hay	25	20	200 00
Oliver H Hay	83	4	40 00
Oliver H Hay	92	1	10 00
Ezra Farnsworth, Trustee	74	20	200 00
Ezra Farnsworth, Trustee	75	5	50 00
James Bunnewell	76	20	200 00
James Bunnewell	77	16⅔	166 33
John Preston	79	24	240 00
W A Palmer (Gold to J Preston)	73	10	100 00
A G Greeley	86	5	50 00
A G Greeley	87	10	100 00
A G Greeley	91	5	50 00

And in accordance with law, and an order of the Board of Trustees, made on the second day of September, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, in Front of City Hall, corner of Kearny and Merchant streets, San Francisco, California on the twenty-sixth day of October, 1868, at the hour of 10 o'clock A. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

WALES L. PALMER, Secretary.
Office, No. 19 First street, San Francisco, California. oc10

THE MINING AND SCIENTIFIC PRESS comes to us this week in a new dress throughout, much improving its appearance. The PRESS is one of our most valuable exchanges, and fills a place in mining and scientific matters never attained by any other journal.—*Colorado Miner*

Chipiconna Mining Company--District of Ures, Sonora, Mexico.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the seventh day of September, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Moschelmer, Jos	26	25	$125 00
Moschelmer, Jos	27	26	130 00
Smith, R	86	5	25 00
Quhi, Thos	25	5	25 00
Anderson, J	94	29	145 00

And in accordance with law, and an order of the Board of Trustees, made on the seventh day of September, 1868, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the salerooms of J. Middleton & Son, 310 Montgomery street, San Francisco, on the twenty-sixth day of October, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN F. LOUSE, Secretary.
Office, 318 California street, up-stairs, San Francisco. oc10

Diamond Copper Mining Company. Location: Rockland District, Del Norte County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 4th day of February, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Lewelling, J	303	8⅓	$16 67
McNamara, Mary	183	8⅓	16 67
Peterson, Geo C	179	5	10 00
Peterson, Geo C	240	25	50 00
Remington, J C	295	1	2 00
Weber, C M	32	50	100 00
Weber, C M	33	50	100 00

And in accordance with law, and an order of the Board of Trustees, made on the tenth day of September, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by R. R. Rollins, auctioneer, at salesroom No. 522 Market street, San Francisco, California, on Monday, the twenty-sixth day of October, 1868, at the hour of 11 o'clock A. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. A. COOLIDGE, Secretary.
Office, Room 40 Merchants' Exchange Building, California street, San Francisco, Cal. oc10

Hope Gravel Mining Company. Location of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifth day of October, 1868, an assessment (No 26) of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 25 Merchants' Exchange, California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on Tuesday, the tenth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirtieth day of November, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary.
Office, No. 25 Merchants' Exchange, south side of California street, between Montgomery and Sansome streets, San Francisco, California. oc10

Kearsarge Mining Company, Kearsarge District, Inyo County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of September, 1868, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 408 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-second day of October, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the tenth day of November, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINGARD, Secretary.
Office, 408 California street, San Francisco. sep19

Providence Gold and Silver Mining Company, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of September, 1868, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the seventeenth day of October, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the fifth day of November, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M BUFFINGTON, Secretary.
Office, Room 37 New Merchants' Exchange, California street, San Francisco. sep19

Silver Sprout Mining Company.—Location of Works and Mines: Kearsarge District, Inyo county, Cal.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the fourth day of August, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Alberding, F H	16, 17, 26	3	$90 00
Devlin, Bendere & McMillin	not issued	2	60 00
Gray, T C	63	7	210 00
McLaughlin, J W	74	50	1,500 00
Martinez, Sendislao	20	4	120 00
Wingard, A	22, 50, 53	16	480 00

And in accordance with law, and an order of the Board of Trustees, made on the fourth day of August, 1868 so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on the twenty-first day of September, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.
Office, 408 California street, San Francisco. sep5

POSTPONEMENT.—The above sale is hereby postponed until Wednesday, the twenty-first day of October, 1868, at the same hour and place. By order of the Board of Trustees.
sep19 T. B. WINGARD, Secretary.

Washington Mining Company.—Location of Works: Nevada County, California.

The regular Annual Meeting of this Company, will be held on SATURDAY, THE THIRD DAY OF NOVEMBER 1868, at one o'clock P. M., at the office of the Company, No 318 Front street, San Francisco.

JOHN J. SCOTCHLER, Secretary.
San Francisco, Oct. 10, 1868. oc10

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Machinery.

VARNEY'S
PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

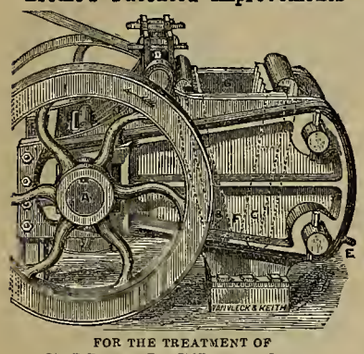
The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setlers for themselves, at the **PACIFIC FOUNDRY,**

1v1 San Francisco.

Brodie's Patented Improvements



FOR THE TREATMENT OF

Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:

No. 1—Or 10 inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price $600

No. 2—Or 15 inch Crusher, capable of similarly putting through five to six tons per hour 850

No. 3—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour 1,200

These Crushers have been erected at several mines in the State of Nevada, and others in Calaveras, Tuolumne and Mariposa counties, to whom applicants can be referred as being the most efficient, cheapest, and least weight compatible with strength and durability, of any Crusher yet erected.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.

JAMES BRODIE, Fulton Foundry, or
CHARLES RANCLIFF,
Express Building, 402 Montgomery street,
12v13tf San Francisco.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE
—BY—
WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077

3v13f SAN FRANCISCO.



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E. O. HUNT'S

Manufactory of

Windmills, Horse-Powers and Pumps,

Has been removed from the old stand on Second street, to

114 and 116 Spear st.,

Next above Stuart and south of Mission st., San Francisco.

Hunt's Patent Wind-Mills, Tread Horse-Powers, Sweep Horse-Powers, (for one or four horses), Sawing Machines, Pumps of all kinds for shallow or deep wells,—including Hunt's Submerged Pump, Hunt's Globe Pump, and Hunt's Single and Double-Acting Pump.

Pumping Machines and general Machinery kept constantly on hand and built to order.

Also, Water Tanks of all sizes.

Having put up large new buildings specially for my business, with greatly increased facilities in the way of room and steam power, I shall be able to build everything in my line at greatly reduced rates.

All desirous of procuring water for irrigating or other purposes, are invited to examine my articles before purchasing elsewhere.

2v16 **E. O. HUNT, Proprietor.**

GLASGOW
Iron and Metal Importing Company

Nos. 25 and 27 Fremont street,

SAN FRANCISCO,

Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings, which they offer to the trade on liberal terms.

21v16-3m McCRINDLE, Manage.

Fire, Hose and Machine Belting.

THE SUBSCRIBER CONTINUES TO MANUFACTURE Oak Tanned Leather Fire Hose, warranted superior to Eastern Hose, manufactured at the Sixth Street Tannery, San Francisco.

21v16-f JOHN J. FULTON.

C. F. TRAVIS,



Manufacturer of

FRENCH

BURR

Mill-Stones,

AND

PORTABLE

MILLS.

Agent for

Dufour & Co's

Celebrated

DUTCH ANCHOR BOLTING CLOTHS.

Mill Picks, Mill Picks Dressed, Mill-Stones Repaired and Rebuilt; Mill Stones Balanced with Fellenbaum's Patent Balance, of which I am sole Proprietor for California, Oregon, and Washington Territory. C. F. TRAVIS,

5v16tf 109 Mission street, San Francisco.

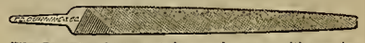
Belting and Lacing.

AN ENTIRELY NEW AND SUPERIOR ARTICLE OF exclusively mechanical preparation, made to order on short notice, and for sale by H. ROYER, at 435 Brannan street, between Third and Fourth. Refers to Eisen Bros., Pioneer Mills; Martin Stein, National Mills; Horace Davis, Golden Gate Mills; also, N. W. Spaulding, Saw Manufacturer. 6v16-3m

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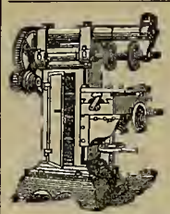
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SAN FRANCISCO.



Files Re-cut and warranted as good as new, with a saving of fifty per cent. REAPER AND MOWER SECTIONS MADE TO ORDER. The only establishment on the Coast. Orders from the country promptly attended to. ☞ First Premium awarded at the State Fair, 1867.

2v17-3m **T. G. DURNING & CO**





Pipe Vise, with or without Extra Jaw.

Standard Milling Machine.

UNION VISE COMPANY,

OF BOSTON, MASS.

Extra jaw, and heavy Vises, Warranted for heavy work. New style Wood and Covered Screw Vises, forty styles and kinds; Standard Milling Machines, simple, great capacity, power and strength—two sizes, large, 2,300 lbs; small, 950 lbs. For sale by the trade.

23v16-ly O. H. NOTT, Pres.

FOR SALE,
BY STANFORD BROS.,

DEVOE'S COAL OIL, PARAFINE OIL, MACHINE OIL, Lard Oil, China Oil, Neats Foot Oil, Sperm Oil, Boiled Linseed Oil, Alcohol, Polar Oil, Tanner's Oil, Elephant Oil, Binnacle Oil, Turpentine, Oil Soap, Crude Petroleum, Lamp Stock of all kinds, GASOLINE, Gravity 84. NAPHTHA, Gravity 65 and 71. Also, GRANT'S CANDLES, in lots to suit.

10v17-3m

NELSON & DOBLE,

AGENTS FOR

Thomas Firth & Sons' Cast Steel, Files,

Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks,

Stone Cutters', Blacksmiths' and Horse-Shoers' Tools,

319 and 321 Pine Street,

Between Montgomery and Sansome, San Francisco.

10v14qr

J. SWYNEY,
MARINE ENGINEER,

53 Montgomery Block, San Francisco,

Is prepared to furnish General Plans, Specifications, and full detail Drawings for propeller or side-wheel steamers, Iron vessels of all classes, engines, boilers, etc. Also for locomotive or stationary engines, and machinery in general. An experience of over twenty years in this profession enables us to furnish correct drawings and guarantee results. 8v17-tf

Notice to Miners,
Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG,

8v13-1y Stove Store, No. 125 Clay street, below Davis.

STOCK CERTIFICATES,
STOCK TRANSFER JOURNALS,
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ASSESSMENT RECEIPTS,

And all other Blanks, Blank Books, etc., required by Mining and other Corporations, kept on hand or printed to order on short notice, at moderate prices, at the office of the *Mining and Scientific Press.*

HUNGERFORD'S
Improved Concentrators.

The above very SUPERIOR MACHINE,

WITHOUT DOUBT THE BEST IN USE,

Is now, since the retirement from business of Messrs. Goss & Lamburd, of Sacramento,

MADE EXCLUSIVELY

by the undersigned, at the

PACIFIC IRON WORKS,

Where the concentrators may be seen.

GODDARD & CO.

October 9, 1868. 15v17tf

Heuston,
Hastings
& Co.,

ARE THE

Fashionable Clothiers

OF

San Francisco.

SPECIALTIES.

PRICE AND GUARANTEE.

The largest and most varied stock of Gentlemen's Clothing, Furnishing Goods, Trunks, Bags and Valises, on the Pacific Coast. Every article sold, being of our own manufacture, is guaranteed. Having contracts direct with European and American manufacturers of piece goods, we thereby effect a saving of fully 50 per cent. in wholesale dealers' profits, and are thus able to offer superior goods at less than second-rate prices.

STYLES.

Having agents in London and Paris, we introduce the new styles in San Francisco simultaneously with their appearance in New York.

GOODS MADE TO ORDER.

For the accommodation of such as may desire, we have secured the services of a celebrated European cutter, and are prepared to make up piece goods in a style superior to any other house on the coast. Shirts, Ties, Collars, etc. made to order at short notice.

COUNTRY ORDERS.

Goods forwarded by Express to any part of the Pacific Coast on receipt of orders and measures; send for directions for measurement.

Heuston,
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5v17-3m

MEUSSDORFFER,

HAT MANUFACTURER

And dealer in

Hats and Caps

AT WHOLESALE AND RETAIL.

635 and 637 Commercial street.....San Francisco.
125 J street.....Sacramento.
Corner of D and Second streets.....Marysville.
72 Front street.....Portland, Oregon.

Our wholesale House, 623 Commercial street, extending through to 637 Clay street, San Francisco, contains always a most choice, and the largest, assortment in this State. Every Steamer brings the latest issued novelties from Europe and New York, which can be found at all the above stores, at moderate prices. 23v16-3m

OIL STOVES!

MORRILL'S

Petroleum and Universal Oil Stoves

Have proved themselves a superior substitute for Wood and Coal Stoves, in that they work quicker, are neater, bake and broil better, are MORE ECONOMICAL generally. They are portable, can be used in any room, with or without chimney, as they emit no smoke, soot or ashes. There are nine different sizes, designed for barbers, dentists, and other mechanical purposes—as well as for cooking. They are perfectly safe.

I now offer a reward of **$100** for every Petroleum Stove exploded by Naphtha delivered at my store, 18 Geary street, where they are for sale by

M. R. BULLARD,

Proprietor of Petroleum Stove for California, and Agent for Universal Oil Stove for Pacific Coast.

N. B.—Petroleum Stoves burn Naphtha converted into a gas. Universal Oil Stoves burn Naphtha, Benzine, or Coal Oil, with non-illuminating flame and light on a wick as easy as a lamp. 21v16-3m

NATIONAL ACADEMY OF SCIENCES.—We quote the following from the proceedings of the National Academy of Sciences, which met at Northampton, Mass., during the last week in August,—as reported by the *American Journal of Mining:*

On Wednesday morning Prof. Whitney discoursed on the topography and on topographical work west of the 103d meridian. He exhibited numerous excellent maps constructed under his supervision by the assistants of the California Survey, and proved to the satisfaction of all that he had been no idler during his long sojourn on the shores of the Pacific. Not only has he conducted the complicated machinery of his commission, but almost entirely at his own expense, he has caused extensive surveys to be made in nearly all the adjoining States and Territories. The maps exhibited covered nearly all the wall of one side of the room, and were hung from railings, blackboards, and almost every other available point, and still they are but a small portion of what he has done.

The economical spirit of the last legislature of California, cut the survey short in the midst of its usefulness, and would have consigned all this valuable work to oblivion, were it not for the energy and enterprise of the Professor. It is to be sincerely hoped that the next legislature will see the folly of such a step, and, while redeeming the reputation of the State, give him the opportunity of completing what he evidently considers his great life-work.

The paper was followed by comments from Prof. Peirce, Mr. Lesley, and Prof. Guyot, all supporting Prof. Whitney's idea that the general government should organize a thorough topographical survey of the public domain. * * This was followed by a paper by Mr. Gabb, late of the California Survey, on the subdivisions of the cretaceous and marine tertiary formations of California, which excited some criticisms from Mr. Lesley.

On Thursday Prof. Whitney, by special request, read an account of the discovery of the fossil skull, supposed to be the remains of Mr. Bowers, of Missouri,* together with some remarks on its geological position, and followed it by some remarks on other antiquarian discoveries.

* ! ! ! [EDS. PRESS].

RAILWAY SIGNALS.—The same system of signalling is in use upon the English and French lines. When the arm of the semaphore is raised, and the red light exhibited—the latter, of course, only shows at night—the passage of the approaching train is barred. So soon as it is lowered, either partially or altogether, the train may proceed, while the lowering of the arm at night is accompanied by a change of the red light to green or white, according as the descent is partial or complete. The contrary rule is in force upon the German lines. The signals there are raised not to arrest but to permit the passage of the train. In dense fogs detonating signals are employed. These are generally placed upon the rails by hand, and the explosion is a warning to the driver and guard to pull up at once. By a most ingenious method, the Lyons Company adopt them to act in consonance with the signals. A couple of detonators are placed alongside the rails at about a quarter of a mile distant from the signal post or station, and in time of fogs they are attached by connecting rods to the signalling gear. Directly the danger signal is up these "crackers," as they may be called, are lifted on the metals, and their explosion is an indication to the driver that the road is barred.—*Mechanics' Magazine.*

A SHEEP-WASHING machine is used by Australian wool-growers, which perfectly cleanses the wool so that its market value is greatly increased. A portable engine is used to throw water into a tank, to give eight feet fall. Several sponts are provided, which throw into the living wool thin films of water, two and one-half feet wide by one-eighth of an inch thick. This searches well into the wool and deterges it perfectly for the shearer. The cost of a twelve-horse engine and everything complete is $3,000.

A CONVENTION OF MINERS was recently held in the city of Mexico to lay before the Government the necessity of a general reformation in the mining laws; chief amongst which was the proposition in favor of the free exportation of silver. Under existing laws and protection the mining interests in Sinaloa, it is maintained, will die a natural death. With the exception of the Tajo mine there is no other mine of note at work in the State.

GEOGRAPHICAL CURIOSITY.--An instance is mentioned by Capt. T. O. White, of the British Ordnance Survey Office at Edinburg, of a stream near its source dividing into two courses at a main watershed, and discharging by double outlet into two distinct systems of drainage. This feature occurs a few miles from Comrie in Perthshire, at the head of Glen Lednock, a tributary of the river Earn. A small rivulet rises under a craggy hill, one of the "Meal Buidhe" range, which separates the drainage of the Tay and Earn. The stream for a short distance takes the course of a well defined gully, till it opens out into a small and comparatively flat area. So far its direction has been with the main watershed ridge. Arrived at the flat ground, which is boggy and broken up into what are termed in Scotland "peat hags," it has reached the point where its waters split off into two branches, one making for Loch Tay and becoming the "Finglen Burn," the other descending, by way of Glen Lednock, into the Valley of the Earn. This divergence is caused by a very slight but immediate rise on the lower side of the fork, gradually swelling into a shoulder, or hump, which becomes a continuation of the shedding ridge. When Capt. White visited the spot last November, there was a decided run of water both above and below the divergence. A very slight deepening of either at the fork would turn the balance, but at present there is no doubt that the head streamlet has naturally selected and is using them both.

THE TENDENCY OF GOLD.—The continued heavy drain of coin and bullion to foreign countries, in liquidation of our trade balances and to meet the interest on that portion of the debt held abroad, is beginning to excite grave apprehensions of financial disaster, particularly as there continues to be an undue preponderance in the import trade. To this unsatisfactory state of affairs, in connection with the doubts and fears engendered by the action of leading politicians, touching the obligations of the Government, is undoubtedly due to the late rise in the gold premium; and as no steps are likely to be taken for the present to bring about the just equilibrium of our foreign commerce, a still higher range for gold during the remainder of the year would seem to be altogether probable.

The circular of a prominent banking house of this city, says: "Indications are not wanting that our foreign trade is approaching a crisis, the character and importance of which are but partially appreciated. Owing to the deficiency of our home production, we have, for the last five years, imported foreign products largely in excess of the ordinary means of payment, viz., produce and the precious metals, and the resulting deficiency has been set off by the remittance of the United States securities to the extent of $70,000,000, or say one-third of our whole gold interest debt."—*N. Y. Trade Journal.*

LABOR AND WAGES IN THE "OLD COUNTRY."—Laborers in England have as a general thing all the comforts that poor men seek, and enjoy life in a much greater degree than they could expect in this country. The industrial cooperative movements, which are now gaining ground with extraordinary rapidity, tend to render them satisfied with their own country. They have besides a more intense national feeling, than is usually found among the lower classes of any other European nation. This makes them look upon America as the last resort—as a place to which absolute necessity should alone drive them. They are in many respects happier than our own working people, because they do not hope to stand beside the class above them, and consequently they do not struggle against their condition to imitate the manners and habits of that class.

In Ireland, labor is a drug, and is usually of the poorest kind. The average of a man's wages, there, is about one shilling per day—of a woman's sixpence.

In France, the working classes are better off than in any other foreign country, except, perhaps, Norway and Sweden, where there is a veritable John Bright's paradise. In Paris, wages are from twenty-five cents to $5 per day; but the average is $1 for men and from thirty to forty-five cents for women, a day's work being twelve hours.

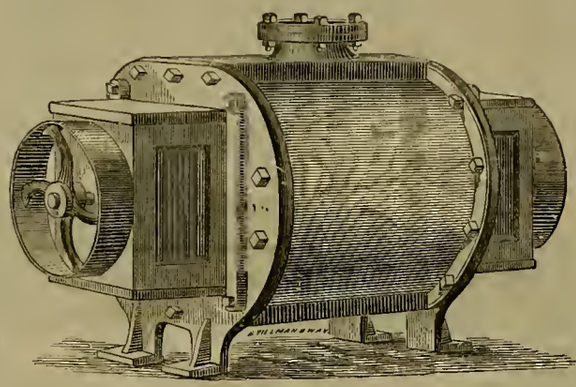
SUCCESS rides on every hour; grapple it and you may win, but without a grapple it will never go with you. Work is the weapon of honor, and he who lacks the weapon will never triumph.

THERE are 238 acres of tobacco in the vicinity of Gilroy.

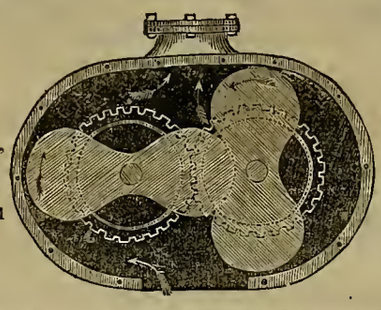
ROOT'S PATENT FORCE BLAST ROTARY BLOWER.

Patented Nov. 1st, 1864; July 24, 1866; and Oct. 9, 1866.

Awarded the First Premium at the Paris Exposition.



ADAPTED FOR **Smelting, Foundry, Mining and Steamships.**



REQUIRES **Fifty Per Cent.** LESS POWER Than any Blower Now in use.

One of these Blowers may be seen on exhibition at W. T. Garratt's Brass Foundry, corner of Mission and Fremont streets. They are also in use at the Almaden Quicksilver Mine; Gridley's Foundry, Gold Hill, Nevada; Ætna Iron Works, San Francisco, and many other places.

CAUTION.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.

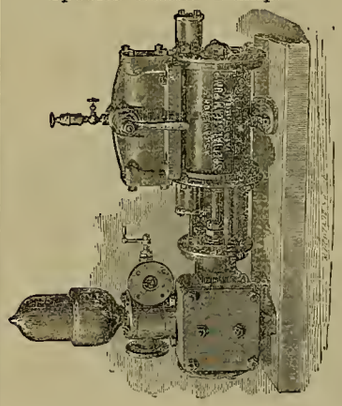
For circulars and further information, address

KEEP & BARGION,
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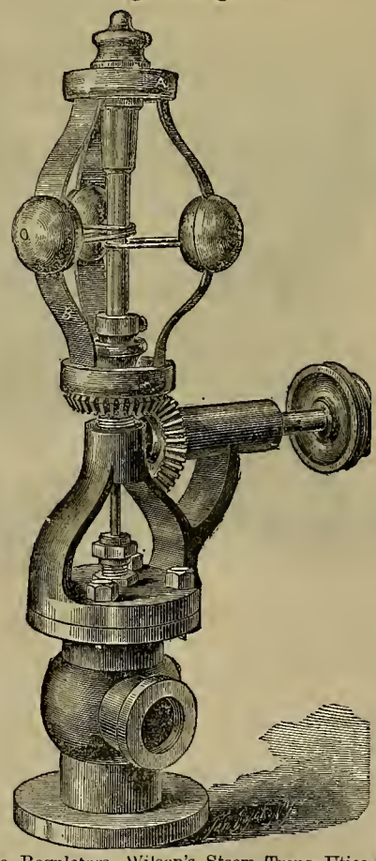
4v16 3m

STODDART'S IRON WORKS.

CAMERON'S Special Steam Pump.



PICKERING'S Engine Regulator.



CAMERON'S **STEAM PUMPS,** all kinds and all sizes, FOR SALE BY **DAVID STODDART,** Mechanical Engineer, 114 Beale street, San Francisco.

Giffard's Injectors, Pickering's Engine Regulators, Wilson's Steam Traps, Utica Steam Gauges, Steamboat Machinery, Morrison & Seller's Patent Steam Hammers, Seller's Patent Bolt Screwing Machines, Lathes, Planers, Shafting and Hangers, Cooper & Phillips' Turning Tools, Machinists' Tools, Engines and Boilers, Wheeler's Patent Tumbling Beam-Engine for Screw Propellers.

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Metallurgy.

KUSTEL & HOFMANN,

Metallurgists and Assayers.

Gold and Silver Bullion Assayed.

MINERAL ASSAYS & ANALYSIS MADE.

611 Commercial Street, San Francisco.

SILVER AND GOLD ORES worked in small lots up to hundred pounds, by Chlorination and other methods.
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METALLURGISTS.

SMELTING WORKS,
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SIMMONS, ROWE & CO., Agents
Corner Pine and Sansome Streets, San Francisco.

GALVANIZING.

Also, Antifriction, Alloys for Journals, Type and Stamping Metals, Tinners' and Plumbers' Solder, etc., etc.
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IMPORTERS,
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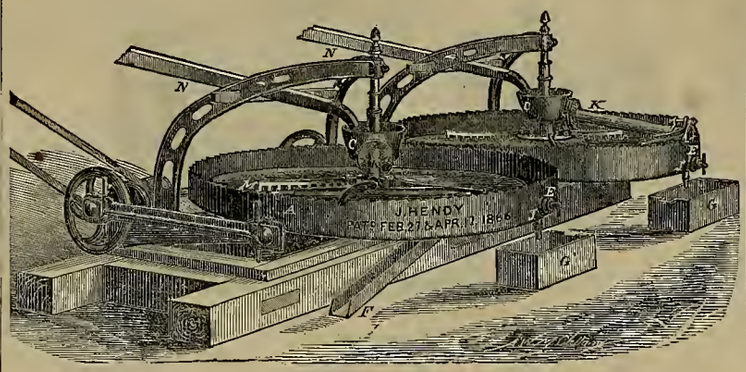
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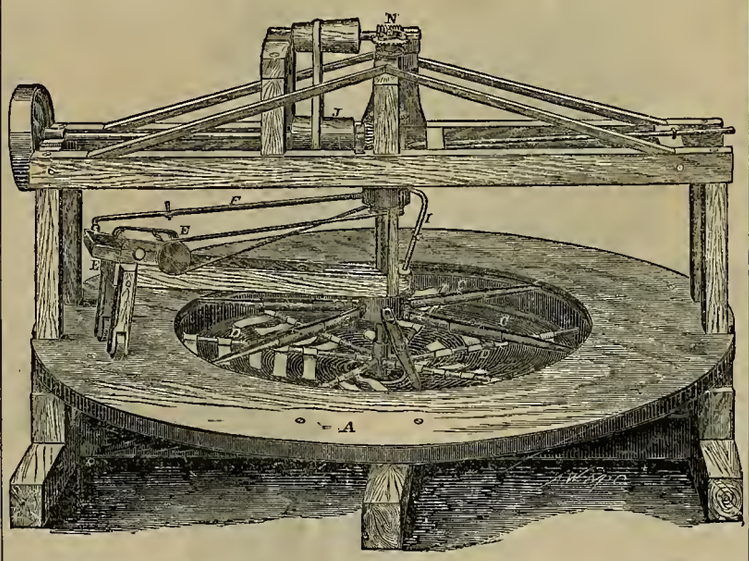
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For Saving Gold and Silver Salphurets.



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It can be easily run by one man turning a crank. The principle on which it works is entirely dissimilar from any other machine now used on the Pacific Coast; although it is in almost universal use in Europe; but not so arranged there as to be automatic in action.

The illustration given herewith, was fully described in the Mining and Scientific Press of March 21, 1868.

One of these machines may be seen in constant operation at the Eureka (Watt's) mine in Grass Valley, where it is giving the fullest satisfaction, and is working all the tailings from thirty stamps. Another machine may be seen at the Banner mill, in Nevada, and a third below the Gould & Curry Company's mill, near Virginia City.

For further information, apply to THOMAS N. PAINE, Grass Valley, California.

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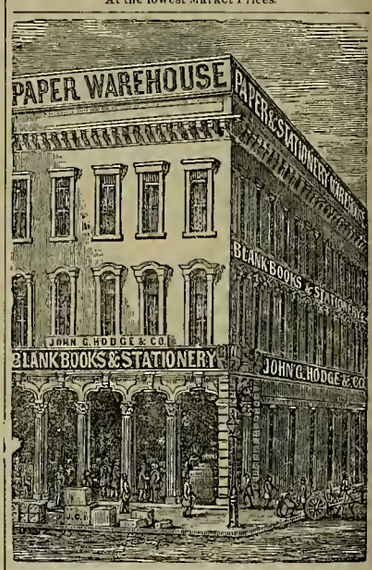
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A Journal of Useful Arts, Science, and Mining and Mechanical Progress.

BY DEWEY & CO., Patent Solicitors. SAN FRANCISCO, SATURDAY, OCTOBER 24, 1868. VOLUME XVII. Number 17.

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California Academy of Sciences.

A regular meeting of the Academy took place on Monday, October 19th, President Blake in the Chair. Mr. Brooks, Secretary, and nine members present. Proposed for membership, Mr. Amos Bowman. Donations to library: 4 geological maps and pamphlets of the kingdom of Sweden; Proceedings of the Society of Natural History of Prague, Bohemia; Transactions of the Academy of Science, St. Louis; Proceedings of the Royal Geographical Society, London, and Anniversary Address before the same; American Naturalist; Monthly Series of the MINING AND SCIENTIFIC PRESS for August and September; Russian America and the Stickeen River, from Smithsonian Institute; Catalogue of Birds found in Costa Rica; West India Cyclone.

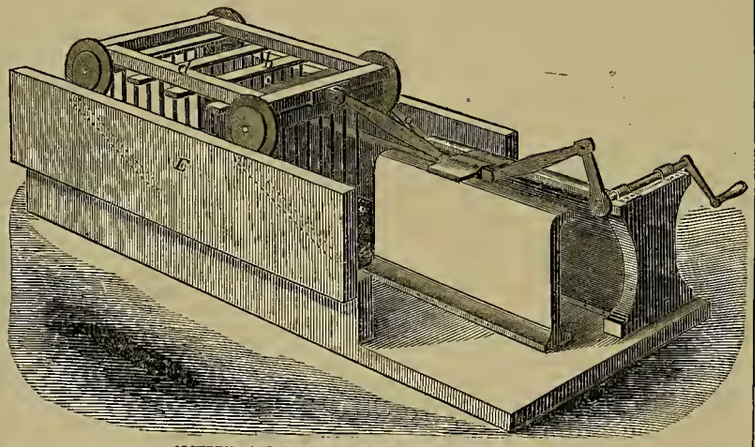
Mr. Theodore Bradley read an able address on the "Value of the Study of Science in its Historical Relations." He gave a summary of the scientific discoveries of the ancients, and an account of the theories built upon them, showing the fallacy of their conclusions in consequence of their deficient knowledge of science. Had they taken pains to explore the hidden mysteries of nature and to accumulate facts before constructing systems of the universe and accounting for the phenomena of the earth, their philosophy and science would not have been deformed by such absurd theories as we now find attributed to them. He pointed out the dawn of correct science and traced its progress to the present time. At the close he made some experiments in hydrostatics to illustrate some of the principles developed by the ancients. The first experiment was designed to show that the pressure of a large column of water on a disk of a certain size is no greater than that of a smaller column of the same hight on the same disk. The second proved that the loss of weight of a body immersed in water is equal to the weight of the volume of water displaced. The third experiment proved that the lateral and the vertical pressure of water are equal.

The lectures are to be continued, and their interest and value deserve a larger audience than was present at the last meeting. Adjourned at 10 o'clock.

NO MORE POISON SWEETMEATS.—Dr. Artus shows how a beautiful green color devoid of poisonous properties can be obtained. Five gallons of saffron are shaken up with a quarter of an ounce of distilled water, and the mixture allowed to stand for twenty-four hours; at the same time four grains of indigo carmine are shaken up with half an ounce of distilled water and the mixture also allowed to stand for twenty-four hours. At the end of this time the two solutions are mixed together, which produce a very fine green solution capable of coloring no less than five pounds of sugar.

Oliver's Raking Machine for Concentrating.

Mr. Allen Oliver of Jamestown, Tuolumne County, has added another mechanical contrivance to the numerous devices which have been brought into use to assist the forces of flowing water, and specific gravity respectively, to take with them in different directions, the lighter and heavier particles of ores. This is nothing more in principle than a stirring machine; a carriage having teeth, reaching into the ore accumulated in the sluice by a cross piece or dam, and moving against the current,—as will be readily understood from the accompanying illustration. The carriage moves up on inclined ways inside of a common sluice, and is dropped from their end so as to sink the teeth into the sand and debris which contains the gold and sulphurets. It is thus caused to move up the sluice against the current, moving on ways beneath the inclined series, stirring and moving the sand, and allowing the heavier portions to settle, while the lighter portions are carried away by the action of the water.



OLIVER'S STIRRING MACHINE FOR CONCENTRATING.

Any number of these carriages may be placed in a sluice, all operated by the same power. In the rear of each car is placed a gate against which the sulphurets and sand will lodge when carried down by the water, in order that they may be successively subjected to the action of the teeth, and consequently separated.

The operation is described as follows: The ore after being crushed in the mill and put through the usual amalgamating process is conveyed with water into the sluice or flume and is then what is termed tailings. These tailings are carried down until they lodge against the gate, where they accumulate; the car is then set in motion and moves up the inclined ways, and drops from their upper ends burying the teeth in the sand; it then moves up the track lifting the inclined ways and passing beneath them and at the same time the tailings are agitated by the teeth, moving the sand, which is carried down the incline and over the gate by the water allowing the sulphurets, by their superior specific gravity, to seek the bottom; the temporary eddy caused by the teeth aiding them in settling. This operation is repeated, while the sand and any particles of gold or sulphurets which have escaped with the water are caught by some of the succeeding gates and settled in a similar manner to that above described. In this manner, and with this apparatus, the sulphurets and particles of gold and quicksilver are saved without the aid of blankets or other device used for that purpose; the sulphurets are left in a clean and natural state ready to be removed for chlorination or smelting.

To remove the sulphurets and other particles which may be left in the sluice, the tailings may be turned from the mill into a second sluice which is provided, similar to the one described, and a stream of fresh water is turned into the sluice, which carries away the sand which has not yet been passed off; the gates are then removed, when the water will carry the sulphurets and other particles down the sluice where they may be deposited in a suitable receiving vessel.

The working portion will be about 24 inches in width, and 40 to 50 feet in length. It can be driven either by steam or water power. For two months past this invention has been applied to the test of practice in Tuolumne county, under the auspices of Mr. Oliver, who is an old miner and a very well-known citizen.

A patent has been applied for through this office.

KYANIZING.—On the Chicago, Burlington and Quincy Railroad, the ties are placed in a tank of boiler iron ten feet square and seven feet deep, and tightly covered. Carbolic acid sufficient to cover them is let in and raised to a temperature of 245 degrees, by the application of steam. Here the ties remain for thirty hours, at the close of which they are thoroughly permeated with the carbolic acid and become as black as charcoal.

The Orchids.

Most Californians have heard of the Mexican plant whose exquisite blossom, called the "Flower of the Holy Spirit," has in its center the perfect semblance of a beautiful white dove. This is the Peristeria, one of the Orchids; a family of flowering plants which is remarkable for its many peculiarities. Unlike those of most plants, its blossoms assume *all* forms. Even upon the same stalk, will often be found half a dozen different flowers, which are so unlike each other as to have been previously referred by botantists to different genera. Besides this irregularity, they frequently take the form of various insects and reptiles. Bees, flies, spiders, toads, etc., etc., are found represented by them in perfection,—even with the utmost exactness of detail.

At least three thousand different species of Orchis have been described; and,—says C. M. Tracy, in the *American Naturalist*,—"no one supposes that more than a beginning has been made." One botanist says that "a whole life would be too short for the figuring of the Orchids of the Peruvian Andes alone." They are found in all parts of the world, in all climates and in all soils. Some species grow up in the cold bogs of the north; others are found only amid the luxuriant vegetation of the tropics. Some are of marvellous beauty of form: others gorgeous in their brilliant coloring. Some give out a wonderful fragrance of extraordinary power; others breathe forth only the most delicate perfume. Some are found as small and unpretending shrubs in secluded places; others swing in gay festoons from the topmost branches of the highest trees. "Varied,—says Mr. Tracy,—with an excess that is perfectly reckless and prodigal, a new form meets the observer at every turn."

Amid such diversity of feature and habit, how then are we to recognize the members of this family? Are there any distinctive marks by which we may know them? Mr. Tracy give us the three following characters, which he says are always constant. First,—irregular flowers; Second,—Stamens and pistils consolidated; Third,—Seeds around the sides of the pod—not around its center. If we find a plant in which these three occur together, "we are safe in looking up to it as a well-accredited member of this regal order."

The royal character of the family is,—Mr. T. thinks,—the more marked, inasmuch as that while incomparable in its exhaustless beauty, hardly a family among plants has so little known utility. The Vanila, the Salep, the Coral-root, and the Ladies' Slippers, are almost the only members of it which can be said to have any commercial value.

DEATH OF AN EMINENT CHEMIST.—Schönbein is dead. He was the discoverer of ozone, and the inventor of gun-cotton. He was born in Wurtemberg Oct. 18, 1799. At the age of 25 he was appointed Professor of Chemistry at Reihau; and later in the University of Basel. He is the author of several works upon scientific subjects.

Lecture on Chemical Geology.

[Delivered before the Fellows of the Chemical Society, London, February 20, 1868.]

BY DAVID FORBES, F.R.S., ETC.

[Continued from page 242.]

The sides of these cracks or fissures would also be frequently more or less dislocated, and so form lines of faults interrupting the previously regular contour of the surface, and forming the first elevations or mountains on the globe, which, by giving direction to the action of the water in the ocean and rivers, would in a great measure determine the main features of the physical geography of this epoch. Nor would these features be readily obliterated, since by in turn giving direction also to the deposition and demarcation of sedimentary matter, their primeval influence, when not counteracted by subsequent cataclysmic action, might be handed down through long ages and formations, even in some cases to the present period.

We have now concluded what might be termed the chapter of Genesis, or the cosmogenetical era of the history of the earth, since from this period up to the present day I regard all the changes which have taken place in our globe as having been affected by agencies similar, if not identical, with those now in operation. Sedimentary rocks were formed from the wearing down and disintegrating action of water and the atmosphere, or as it is termed, the weathering of the primitive crust, and the subsequent stratification of the *debris* so formed by the action of rivers and of the sea, just as at the present moment they are in the course of formation from the *debris* of pre-existing rocks. Eruptions of igneous matter from sources in its interior from time to time disturbed and broke through the primitive crust, and the rock strata above it, in course of formation from its *debris*, just as at the present day (though possibly on a somewhat smaller scale) similar outbursts are produced by volcanic action.

The primitive crust of the earth, split up as before stated by the effects of contraction, would be further broken up and pulverized by the mechanical force of water, powerfully assisted by the disintegrating and decomposing action of the carbonic acid present in such great excess in the primeval atmosphere, and thus would in process of time be so comminuted as to enable its particles to be sorted by the action of rivers and the sea, which would arrange them in sedimentary beds of varying density and character.

A large portion of the quartz, more or less free from other silicates, would at once be formed into beds of sandstone and grits; the silicates, however, would first undergo a partial decomposition from the action of carbonic acid and water, causing the removal of a large portion of their alkalies, which would be carried into the sea in the state of carbonates, and there react upon the earthy and metallic chlorides contained in the ocean. Particles of metallic sulphides entangled in the silicates (for as before stated no mechanical separation according to densities can be in nature regarded as perfect) would become oxidized into sulphates and also carried into the sea, which would receive a further amount from the gaseous compounds of sulphur which are supposed to have accompanied the outbursts of igneous matter from the interior of the globe.

The partially decomposed silicates, along with more or less quartz, would, by the action of the sea and rivers, also be sorted, and deposited as sedimentary beds, forming the argillaceous and areno-argillceous strata of that period, which were subsequently altered in character by metamorphic action.

The development of organic life, at first of the lowest type, would now introduce another character of deposits into the sedimentary series, as by abstracting the lime contained in the ocean (in the form of carbonate, sulphate, and phosphate, the two latter compounds being the probable source of the sulphur and phosphorus which play so important a part in the vital economy of both animals and plants), this would gradually afford the materials for the building up of limestones and calcareous strata, whilst at the same time vegetation, by assimilating the carbonic acid in the atmosphere, would, from the remains of its organic structure, also introduce beds of carbonaceous character into the series; and further, by clearing the atmosphere of the overwhelming excess of carbonic acid originally contained in it, and returning a corresponding amount of oxygen to the air, it gradually paved the way for the increased development of animal life, and eventually effected the purification of the atmosphere to such a degree as to permit of the existence of air-breathing animals upon the face of the earth.

By these means, therefore, we are enabled to explain the formation of the more important classes of rock masses which characterize all sedimentary formations from the most ancient up to the most recent, namely: the arenaceous, argillaceous, calcareous, and carbonaceous strata, with the numerous deposits of intermediate character formed from a greater or less admixture of the materials of two or more of the above.

These causes would operate through all time; for although in the first instance or commencement, they could act only upon the primary crust and its *debris*, they would in later ages have a far larger field for work in the destruction of all the stratified and unstratified rocks preceding them, and the reconstruction of new formations from their ruins.

The formation of these sedimentary strata, did not proceed uninterruptedly, however, for any longer period; for from time to time outhursts and intrusions of the igneous matters contained in the earth below, disturbed and broke through the strata* forming dykes, ramifications, and bosses, as well as sheets sometimes overflowing, and at other times intercalated between the beds themselves. Showers of volcanic ashes may, probably, in some instances, have accompanied these outhursts, and by falling upon the land, or into the sea, have formed beds in the series of a totally different character to those before alluded to, which were merely derived from the breaking up and disintegration of previous rocks, or from the action of organic life. When currents of lava from these eruptions poured into the sea, or forced their way from below up through the bed of the ocean, the igneous matter would be converted into tuffs; that is to say broken up, disintegrated, and so brought into a state of division more or less fine, in proportion to the greater or less cooling action of the water mass in immediate contact with it. The action of the waves would then assist in spreading out these igneous products, and arranging them in beds similar to those of ordinary detrital origin, whilst the texture of such beds would vary from that of the coarsest breccia down to the finest mud, and, as is commonly the case, such deposits present themselves as alternating beds of coarse and fine character. Upon the consolidation of such masses, rocks are formed, closely identical in chemical and mineralogical composition to the original eruptive rock from which they were derived, and in external appearance, particularly when close-grained, often undistinguishable from it by the naked eye; in most cases, however, the microscope can distinguish between them with certainty; but it has long proved an enigma to both the chemist and the geologist, when he finds a rock taken out of an apparently normal stratified or sedimentary deposit, to have the same chemical composition as one of undoubtedly eruptive or igneous nature.

To the difficulty in discriminating between such rocks, I attribute in great measure the conflicting opinions which have divided geologists as to the origin of granites and various other of the older plutonic rocks, and my experience in the field, assisted by the microscope and laboratory, has satisfied me that very many of the so-called granites and gneises are really sedimentary products of the breaking up of true igneous eruptive rocks, stratified by aqueous agency, and subsequently, as it were, reconstructed or consolidated. At the same time, however, I have also come to the conclusion that there also are true eruptive granites of igneous origin, *i.e.*, the products of action similar to volcanoes, the only apparent physical distinction being that probably the conditions of pressure may have been somewhat different in the older periods.

This is a point of great interest and importance in the study of the older rocks, and therefore I will attempt to answer the arguments which I find advanced against the igneous origin of granite, not by a reference to authorities on the subject, but by what may be called volcanic facts, that is, data obtained in the examination of the mineralogy and petrology of volcanic districts. The main arguments brought against the probability of the aqueous origin of granite and several other plutonic rocks are—

1.—That granite contains free quartz. As before stated, this is also the case in many volcanic lavas, and the remarks made on this subject, when considering the possibility of the presence of free silica in silicates, are all applicable here.

2.—The quartz in granite is of specific gravity 2·6, or the same as that of quartz of aqueous origin; as previously stated, this is also the case with the quartz from volcanic lavas.

3.—The quartz from granite contains water.

This is also the case with the quartz out of the rocks of the volcanic island of Ponza in the Bay of Naples, and in the volcanic lavas from Peru.

4.—That in granites, some of the more fusible minerals have often solified and crystallized before the less fusible ones.

In the lavas from Vesuvius it is common to find crystals of refractory leucite sitting upon the easily fusible augite, which had crystallized first.

5.—That granite frequently contains hydrated minerals.

The quartz, feldspar, nepheline, and idocrase from Vesuvius all contain water. A specimen on the table, broken out of the lava current of March, 1865, whilst still flowing from Ætna, contains crystals of stilbite.†

It appears to me, therefore, that when the facts and arguments on both sides of this question have been impartially considered, the conclusion will be drawn that there are true eruptive igneous granites, and that the arguments advanced against the igneous origin of granite are inconsistent, as well as inconclusive.

*These eruptive rocks, in cooling, become solidified first at the exterior, and by contraction are frequently, more especially when in large masses, split up by joints and fissures, which occasionally might be filled up by the still liquid part forced into them from below by the general contraction of the mass of rock; this accounts for what may be called cotemporaneous veins in these rocks, which in general present a different external appearance to that of the rest of the rock, owing to different conditions of cooling and crystallization from that of the rest of the mass. As acid silicated rocks, like granite, contract more in cooling than basic ones, like dolerites, these veins are found to occur more commonly in the former than in the latter. They must not, however, be confounded with those veins or dykes produced by subsequent eruptions of igneous outbursts, cutting through the previously erupted rocks in later geological periods.

†Bunsen has proved experimentally that hydrated silicates, analagous to those in eruptive rocks, can be formed at high temperatures, and retain their water at such temperatures, as long as inclosed in their matrix; if extracted from this, however, the water contained in them can be expelled at a very gentle heat. Laurent has also shown that borate of potash fused at temperatures above the melting point of silver retains water which, singularly enough, can be expelled in bubbles by reheating the vitrified mass over a spirit lamp so as hardly to soften it.

[To be continued.]

DEATH OF A PIONEER AND WORKER.—Sandwich Island newspapers report the death of Judge Andrews, of the Hawaiian Supreme Court. Respecting his life and labors, an able correspondent of the *Times* says:

The Hawaiian College at Lahaina-luna, the Hawaiian *Press*, and the Hawaiian Dictionary all, owe their origin to the untiring efforts of this useful man, who died at his residence in Nuwanu Valley, on the 29th of September, at the age of seventy-three. The Lahaina-luna Seminary was opened under his supervision, in 1831, and very soon after he commenced to edit the *Lama Hawaii*—"Light of Hawaii"—which, as near as I can ascertain, was the first paper ever issued in the Pacific, on continent or island. He afterward became Judge of the Supreme Court, and has always been a most esteemed and worthy man and citizen. His researches in the Hawaiian language, history and songs have been very extensive and patient. For some time past blindness and paralysis have laid him aside from active effort of any kind.

HAWAIIAN CONCHOLOGY.—Dr. W. Newcomb, whose large and well known cabinet has been transferred to the Cornell University at Ithaca, New York, has been visiting Honolulu and other parts of the Hawaiian group, searching the reefs and bays for specimens to add to his collection. A number of rare shells have been secured, and he takes with him by the steamer East, as the result of his few weeks' labor, a collection which an amateur would consider very extensive. The land shells of those islands were thoroughly worked up by Dr. Newcomb during a previous residence of five years, and were described and figured by the London Zoölogical Society and also by the Natural History Societies of New York and Boston, in their journals. Hawaiian marine shells yet await some one to make them a specialty. Doctor Newcomb will spend the winter at the University, setting up and arranging the conchological cabinet.

MINERALOGY.—The Cornell University has bought the private mineralogical collection of Professor Benjamin Silliman, of Yale College, one of the most varied and valuable private collections of mineral specimens in the country.

The Sun's Heat as a Direct Motor.

The *Scientific American* publishes a communication in which the writer, in view of the facts that so large a proportion of the heat in the steam engine is lost through friction, and that the world's supply of fuel must eventually fail, makes a novel suggestion for the direct utilization of the heat of the sun as a motor, without the necessity of having recourse to the same stored up as power in coal beds or in forests. This might, he says, be done as follows: An inclined plane or railroad, having placed thereon a heavily-loaded car, with pawls attached, playing in ratchets by the sides of the rails, so that it should be prevented from descent;—also, having a long bar of iron or other metal fixed to the lower end of the car with a movable joint, so that the lower extremity of the bar should lie upon a central ratchet lying parallel to and between the rails,—would operate thus: the long bar would expand by the heat of the sun, and, being prevented by the central rachet from downward motion, would push the car up the inclined plane. The side panels and rachets would hold it there, so that upon subsequent cooling the bar would be drawn up, and, taking a new hold upon the central rachet would, when heated again, push up the car. In this way, step by step, through successive days and nights, the car would be lifted to the top of the inclined plane, precisely as a tin roof sometimes crawls out of its place by concentration and expansion. An enormous weight might thus be elevated, which, in its descent, could be made to supply power for mechanical work; but here comes in the practical difficulty. It will have taken days to have thus stored up the force, which, though it might be enormous, would be so concentrated that, to apply it, great multiplication of its motion would be necessary. This would lead to complication of parts, and loss from friction. The writer goes on to say, that the question how to transmit and to transport the power generated by the constant deposition of water by the sun upon the summits of natural inclined planes, is the question to which the age demands an answer.

NEW COAST RANGE AND INTERIOR ROAD. Capt. William Moore and party, who were sent by the Board of Supervisors of Los Angeles County, to ascertain the practicability of a route via Tejunga Cañon, to Soledad and the country on the other side of the Coast Range of mountains,—Mohave river and the copper mining country,—returned to Los Angeles on Tuesday, Oct. 6th. He reports that a good road could be made, with an easy grade, to Soledad Pass, and estimates the expense of making the road at $30,000. The road would open up a splendid timbered country, where any amount of timber could be obtained. Another advantage is that it is thirty miles nearer than the old one, to the mining and farming regions of the interior, the residents of which obtain their supplies from Los Angeles, and it will be free from the danger of floods in winter.

MINERS WANTED IN MISSOURI.—A mining broker, who recently took a tour through the mining fields of South Missouri, says: "Missouri wants 50,000 miners." The present number of lead miners in Missouri is about 800. This includes all the mining done except quarrying the ore from the iron mountains, and a few adventurers exploring for the finer metals. There are about 1,500 miners in the upper lead field and $1,500,000 worth of lead sold in 1867, being $1,000 to each lead miner.

There are three copper fields in Missouri. These extend through Franklin, Crawford, Dent, Shannon, Wayne, Madison and Iron counties, and include 500,000 acres of copper land.

SETTLING UP.—The Tuolumne City *News* is informed by parties from the west side of the San Joaquin river, that over fifty houses have been erected between Graysonville and the southern borders of the county line, within the past three weeks. Most of the settlers have brought with them their families, household goods, and farming implements, with the view of making permanent homes.

Mechanical.

Bramah, Maudslay, Clements, Nasmyth, Whitworth.

These five names, in their order, serve to point out as many steps in the progressive improvement of accurate machinery towards its present state of exact perfection. An article in *Cassell's Magazine* has the following notice of the first named: It is said that the first person who invented labor-saving machines was Bramah, the maker of the patent lock. He found it necessary to give the greatest exactness to every part of the ward and key. This he found it difficult to do without employing the very best workmen; and their charges were so exorbitant that his invention was in a fair way of dropping out of use. In this dilemma he was forced to turn his attention to the introduction of machinery. The workshop in which the many clever contrivances to perform his work with speed were invented, may be said to have been the training-school for the early machinists whose labors have within the present century built up the mechanical greatness of England. Accuracy of machine-work before his day was utterly unknown. Watt had the greatest difficulty in getting his first model of the steam engine constructed with sufficient truth to work; its cylinder was not bored, but hammered—and consequently was so imperfect that it leaked in every direction; and, when his "old white-iron man" died, he despaired of obtaining another skilled man. Even when he had obtained the trained workmen of the Soho Foundry, they found a difficulty at first in constructing working-engines after his design. The accuracy and quality of the best workmen of the day may be gauged by what he says of the working of his steam engine: "The velocity, violence, magnitude, and horrible noise of the engine give universal satisfaction to all beholders—believers or not." What a contrast this to the smooth, irresistible, noiseless action of a steam engine of the present day, constructed with mathematical accuracy and perfect finish!

Maudslay was the inventor of the famous fixed slide-rest. He was a journeyman who learnt his trade with Bramah. Before its invention, the turning-latbe depended for its accuracy upon the steadiness of the muscles of the workmen. If at any moment, in turning a cylinder, for instance, he leaned heavier upon the tool than at another, the whole work had to be gone over again. By simply fixing the turning tool, however, this source of error was entirely obviated, and mathematical accuracy obtained.

Clements also learned his trade in the school of Bramah. He invented the planing machine; without which no perfect plane can be made. "The value of such a machine is incalculable. Indeed, upon the truth of the plane depends the whole value of modern machinery. Of old by chipping and filing, an attempt to approach the plane was made, but of course perfect accuracy was out of the question." Clements invented the steam whistle, also.

Nasmyth was a pupil of Maudslay. But for his steam hammer there would have been no iron-clads, nor any of the monster cannon now built upon the coil system.

Joseph Whitworth is the last and best known of those who issued from the establishment of Maudslay and Field. His "Jim Crow" planer which reverses itself, cutting both backwards and forwards, his rifled gun, and his machine for detecting variations the one-millionth part of an inch,—are fit results of the training which he underwent in an establishment with such a history.

It is but little more than half a century since the hand was all we had to depend upon in the world of mechanics. "If the reader wishes to measure the difference between the old work and the machine work of the present day, he has only to look down at the splendid specimen of Penn's marine engine on board the Warrior iron-clad. The perfection of the workmanship in this engine may be estimated by the fact that, when its five thousand pieces were assembled together for the first time, such was the mathematical accuracy of their fit that as soon as steam was got up, it began to move with the utmost smoothness. Let the reader compare this splendid piece of work with the old Newcomen engine in the South Kensington Museum, and he will at once see the ages of mechanical genius we have traversed since Watt took the latter in hand, and by patient thought built up out of it the present steam engine."

Ericsson's Solar Engine.—C. H. Delamater writes to the *Scientific American* that he has recently witnessed the operation of one of Capt. Ericsson's solar engines. It is "to be actuated by atmospheric air heated by the direct intervention of concentrated solar heat." The working piston of the model makes upward of 300 strokes per minute. He says: "The simplicity and moderate cost of the means devised to concentrate the solar heat are such that no practical difficulties present themselves to prevent the construction of solar engines of any desirable power. Much might be expected from the versatility of the constructor and his extraordinary mechanical resource; yet, the facility with which the radiant heat of the sun may be collected and concentrated from acres of surface, by the means contrived, will alike surprise and interest the mechanical and commercial community." The writer also translates a portion of a paper upon the subject read last spring by Capt. E. before the Philosophical Faculty of the Swedish University of Lund. He does not describe the means by which he concentrates the solar heat; but says that his experiments have shown that the concentration on 100 square feet of surface is more than enough to develop one horse-power. He states also that he has constructed three engines,—one of which is actuated by steam, the other two by air; the heat in both cases being solar heat.

The writer concludes by asserting that such progress is being made, that before the close of the present season, bread will be prepared from flour ground by the power of one of these engines.

Utilization of Waste Heat.—Mr. J. Jones, F. G. S., in a paper read before the British Association at Norwich, describes as follows the Newport furnace now in use in Middlesbro, England: "A chamber is built in the ordinary chimney stack, and in this are placed two cast-iron upright pipes, with a partition reaching nearly to the top of each. The waste gases from the furnace are diverted into the chamber by means of a damper, and raise the temperature of the iron pipes to a high degree. Through these pipes the air required for combustion of the fuel is drawn by means of a steam jet; the mixed air and steam being conveyed to the furnace bridge, and delivered there by a series of tuyeres; also a portion of the air is sent in lower down, underneath the bars of the grate, the ash-pit being closed so that no air can reach the furnace except that which has been heated to a temperature of about 500 degrees by the waste gases. By this means a regenerative action is set up, and, it is found in practice, that the combustion of the fuel is nearly complete, the only smoke produced being at the time when heavy firing is going on. The actual results arrived at by the use of these appliances, show the saving of from twenty-five to thirty per cent. of fuel as compared with the operation of the furnaces of ordinary construction. In the working of several of these furnaces with grey forge iron, six heats per day, the quantity of coal used in producing a ton of puddled iron, has been reduced to 16 cwt., and less; ordinary furnaces, working under similar conditions, using from 22 to 23 cwt. to produce similar results. In proportion as refined iron or lower qualities of pig iron are introduced, the proportion of fuel required decreases considerably."

Scientific Miscellany.

Hæmatoidin.—Holm has given the results of his experiments upon this substance. The source whence he obtained it was the *corpora lutea* from the ovary of the cow. These were rubbed to a fine pulp with pounded glass; this pulp was then placed in a flask with chloroform, and allowed to stand for several days, being frequently agitated. Upon filtration, a deep gold-yellow solution was obtained, which on spontaneous evaporation, left a semi-fluid yellowish-red fatty mass. The fat was evidently a solvent of the hæmatoidin, since it was not until after some days that crystallization began. As it proceeded, the fat gave up its coloring matter to the crystal, leaving finally single and nearly colorless fat drops, each of which contained a small but very beautifully defined hæmatoidin crystal.

If the formation of these crystals be watched under the microscope with a power of 150 diameters, they will first be seen as acute three-sided tables, one of the sides being frequently curved. Generally, two of these triangular crystals unite by their bases, thus giving the rhombic table, so characteristic of hæmatoidin. Sometimes there is an indentation at the obtuse angle of the rhomb, into which other pairs of twins may grow, producing four pointed stars. And these, by the filling in of their re-entering angles, pass into square tables, which increase in thickness and resemble cubes. The obtuse angle of the rhomb, too, is often rounded.

Hæmatoidin is one of the most beautiful substances known to organic chemistry, resembling murexid very closely. By reflected light, perfect crystals show a magnificent cantharides green color, and a metallic luster; by transmitted light they appear red. If not too thick, the crystals, as viewed under the microscope, seem to be a pure magenta red; and a number of crystals irregularly aggregated together show a rich blue or violet tint.

Hæmatoidin is very readily soluble in chloroform, giving a gold-yellow solution; and in carbonic disulphide with a flame-red color, or orange if greatly diluted. Less soluble in absolute ether, not at all in absolute alcohol and water, nor in ammonia, sodic hydrate, dilute mineral acids (non-oxidizing) or dilute acetic acid.

Dr. George Barker gives a notice of these experiments in *Silliman's Journal* for September.

Artificial Carbon Points.—Mr. F. Carre has made pencils of artificial coal, the illuminating power of which, by the aid of electricity, has been found much superior to that obtained from the coal supplied from the glass works. To make this substitute he takes various kinds of sea-coal and charcoal reduced to impalpable powder, and then washed in acids; they are next ground with fine oils mixed with resins; lastly, subjected to a powerful pressure, strongly agglomerating them into prisms or cylinders, which are subsequently calcined in close vessels at a white heat. By addition of iron or antimony the electric power is considerably increased.

Kansas Fossil Reptile.—At a recent meeting of the Philadelphia Academy of Sciences, Prof. E. D. Cope exhibited several fragments of a large Enaliosaur found at Fort Wallace, Kansas. About thirty-two feet of the vertebral column of this specimen has been recovered, besides several ribs, the greater part of the pelvis, and two long bones. The length of the animal is estimated at thirty-eight feet. It was a marine saurian, allied to the Plesiosaurus, and of the Cretaceous Age.

The Eclipse.—It is announced by telegraph that the German expedition to Aden, Arabia, is bringing home six photographic views of the recent total eclipse of the sun. Other expeditions which have been heard from, report spectroscopic observations of the most remarkable character.

Another New Planet.—It is announced that Dr. C. H. F. Peters discovered a new planet on August 24th, while at the Observatory of Hamilton College, Clinton, New York. It is in the constellation Pisces, and is now equal to a star of the eleventh magnitude.

Prof. Tyndall on Materialism.—In his address before the British Association in August, Prof. Tyndall made use of the following language: "Although I think that the materialist will be able finally to maintain the position that thought, as exercised by us, has its correlative in the physics of the brain, I do not think he is entitled to say that his molecular groupings and his molecular motions explain everything. In reality they explain nothing. The utmost he can affirm is the association of two classes of phenomena of whose real bond of union he is in absolute ignorance. The problem of the connection of body and soul is as insolvable in its modern form as it was in the pre-scientific ages. If you ask him whence is this "matter" of which we have been discoursing, who or what divided it into molecules, who or what impressed upon them the necessity of running into organic forms, he has no answer. Science is mute in reply to these questions. Perhaps the mystery may resolve itself into knowledge at some future day. The process of things upon this earth has been one of amelioration. It is a long way from the Iguanodon and his contemporaries to the president and members of the British Association. And whether we regard the improvement from the scientific or from the theological point of view, as the result of progressive development, or the result of successive exhibitions of creative energy, neither view entitles us to assume that man's present faculties end the series—that the process of amelioration stops at him. A time may therefore come when this ultra-scientific region by which we are now enfolded may offer itself to terrestrial, if not to human investigation. Two-thirds of the rays emitted by the sun fail to arouse in the eye the sense of vision. The rays exist, but the visual organ requisite for their translation into light does not exist. And so from this region of darkness and mystery which surrounds us, rays may now be darting which require but the development of the proper intellectual organs to translate them into knowledge, as far surpassing ours, as ours does that of the wallowing reptiles which once held possession of this planet."

The Whale's Food—Color of the Arctic Sea.—Mr. Brown read a paper before the Botanical Society of Edinburgh, giving the results of his researches in the Arctic Seas from 1860 to 1867. He expressed the opinion that the deep green color of certain portions of those seas, described by Hudson and Scoreshy, is due to immense multitudes of minute silicious diatomaceæ which furnish the entire subsistence of the *Balæna mysticetus*, one of the largest of the whales. Thus, an animal which, full-grown weighs about one hundred tons, being in fact "the most gigantic of living animals, is dependent for its existence on a being so small that it takes hundreds, massed together, to be visible to the naked eye."

A New Alkaloid.—M. Rosentiehl has discovered a new alkaloid, isomeric with toluidine, a substance contained in aniline of the shops, and which crystallizes readily. There is, however, another toluidine which is nearly liquid, and yields, with arsenic acid, a red coloring matter, analogous to fuchsine. It boils at 190 degrees Centigrade, and if cooled to freezing point, a single drop of water will suffice to determine the solidification of a large portion of it. This proves to be the common sort; but the remaining liquid still possesses the properties of the other kind, though it yields a smaller proportion of the new red coloring matter. The discoverer proposes calling it provisionally pseudo-toluidine.

The Dana Natural History Society.—The object of this society is "to awaken and extend among the people generally, *and especially among the women* of our country, a greater love for the study of nature." The first chapter was organized about a year ago, in Ripley Female College, at Poultney, Vermont. Since that time, eighteen additional chapters have been organized in different parts of the country.

A new Scientific Association.—An organization similar to the British Social Science Association, is projected in our Western States. A call for a meeting at Chicago on November 10th, has been signed by a large number of professional men and others. It will be called the Western Social Science Association.

Work at the Foundries.

Though the tossing about of some hundreds of tons of pig-iron, and of labyriuths of heavy iron machinery, would be expected to produce some very notable havoc, it is quite surprising to witness so little evidence of Wednesday's earthquake as will meet the eye of the visitor who mny have business at the foundries. Some of the foundries, indeed, have suffered no damage whatever; while others located nlong the old water line have been rent in twain from top to bottom, by a crack measuring on the ground six inches in width;— notwithstanding which the work goes "bravely on."

THE UNION FOUNDRY.

Booth & Co. are engaged on a large pump job for the Hayward mine, in Amador County; three sets of very large hoisting wheels for the Yellow Jacket, Nevada; a very large and fine steam engine of 150 horse-power, for the Star Spangled Banner mine, Nevada City, under the direction of Mr. Wlliam L. Tisdale, Superintendent; a large saw-mill engine for Port Orford, of 18-inch cylinder and 20-inch stroke; n large qunntity of miscellaneous articles, such as shnfting, pulleys, etc., for planing mills and the like; a lot of cnr wheels and nxles for the Central Pacific Railroad—800 wheels and 400 axles being the last joh—this foundry being engaged on most of the work which is done for the Central Pacific in this city. They are nlso building quite a number of the patent cut-off engines of Scott & Eckart, which took the premium at the late Mechanics' Institute Fair. All the work for the city street railroads is done here, which amounts to considernble in detail; also the work of the Black Diamond and Pittsburg Railroad, and of the Somerville and Monte Diablo, and the San José Rnilroads. The engines constructed hy Mr. Scott for the steep grades leading up to the Monte Diablo coal mines are said to he doing their work very satisfactorily.

A Coffin & Standish steam plow, of 16 feet width, is being huilt here for a Mr. Miller, of San Francisco, and is intended to he used hy a company orgnnized on the basis of cultivatiug land with improved machinery, for the increased profits over a certain figure that will be returned to them.

The apparatus for the Nolf & Pioche electricity reduction process, is heing made here.

AT THE GOLDEN STATE FOUNDRY,

Palmer, Knox & Co. nre engaged in making some of Frauk Cone's Revolving Spaders, one of which was exhibited at the late State Agricultural Fair. The one in hand is for a party in El Dorndo County. The Spader is not a steam plow; it is drawn by nbout eight horses, and cuts up a swath of eight feet. It costs $500—not more than n gang plow, while it is claimed that there is "no wear out to it." In principle it is nhout the snme as a roller would be with spades stuck nll over its surfnce. As the roller is put in motion the spades are pressed into the soil, and then break it up as they come out.

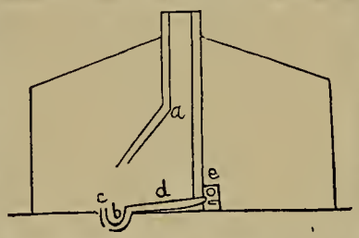
In mining machinery there is little on hand at present, except the turning out of a numher of Knox's pans—for the Prairie Diggings, Oregon, and for the Banner mine, Nevnda City, etc.;—nnd the usual qunntity of repairs. White iron shoes for stamp mills, are made in lnrge quautities, to order, being very hard and superior.

Some work is being done for the Submergod Pump Co., of which Mr. Mudge is the agent, on Cnlifornia street, the order being for pieces and connections calculated to enable them to work in deep mines. The iron-work for Gnston's Excelsior Grain-sower is manufactured to fill a goodly number of orders from all over the country. It is a broadcast sower, and is generally put togother by the wagon-makers who order them. Printing presses for Faulkner & Co, are being made, one after another. Enlargements have been found necessary, and have heen made, in the blacksmithing department.

Lead Mining and Smelting in Japan.

From ignornnce of the use of powder in blasting, the menns possessed hy the Japanese for attacking rock were—till the application of powder in mining introduced by us—confined to the use of pointed instruments, a miner's pick with oue point, similar to our own, a hammer and gad, with handle, like the German eizen, completing the outfit.

The furnace in which the ore is smelted is a cavity in the grounnd, lined with charcoal powder kneaded with puddled clay, forming a hemispherical crucible (*b*) about fourteen feet broad and ten deep, with an under-drainage. In front is au earthen shield (*c*) to reflect the force of the blast which enters through n clay nozzle (*d*) from the box bellows (*c*). The greater part of the smoke, etc., passes off through a large chimney (*a*). The crucible is lined with charcoal, and wheu fully dried, about



eighty pounds of ore is added and covered with charcoal. When hnlf melted, thirty per cent. of pig-iron, in lumps of about an inch cube, is added. As soou as about one-half of the galena is freed from its sulphur, the whole is stirred. After about two hours the coals are withdrawn, the blast stopped, and water is thrown on the bath to cool the first layer of matte. This is repented six or seven times till the surface of the lead is free, when it is cnst in bars, the mntte heing thrown nway.

The greatest production of these mines was in 1860, when, during three months, they averaged 600 pounds daily; at the time of my visit it wns ahout eighty pounds.

The daily running expenses of prodnction for this small result of eighty pounds, was as follows:

30 miners, averaging 6 cents	$1 80
30 coolies at 8 cents	2 40
7 overseers at 5 cents	35
1 carpenter	8
26 ore dressers, averaging 3 cents	78
2 stamp tenders, 4 cents each	8
1 smelter	8
2 smelter's assistants, 4 cents each	8
200 lbs charcoal	17
30 lbs. of inferior pig iron	16
Total	$5 98

The miners working in ore are paid according to the weight and quality of the ore extracted, receiviug one cent for every ten kans, or eighty pounds of best rough ore, and one-half cent for the same quautity of inferior.

When not working on ore, they are paid by the running foot on the gallery, and the hardness of the rock, receiving per running shak or foot, sixty cents for the hardest rock, and fourteen for the softest, the average at these mines being thirty ceuts. One man can advance a gallery one foot in the hnrdest rock of these mines, in five days.

The timhering of the levels costs ten cents per runniug foot, the wood growing in the viciuity.—*Raphael Pumpelly's Account of the Ichinowatari Mines, Smithsonian Contributions*, 1866.

THE GRAND LODGE OF FREEMASONS for California, brought into our midst last week n good representation of our best citizens from every part of the State. The election for Grand Officers resulted as follows: Charles Marsh, of Nevada, Grnnd Master; Leonidns E. Pratt, formerly of Sierra, Deputy Grand Muster; T. G. Cockrill, of San Francisco, Senior Grand Warden; F. Barss, of El Dorado, Juuior Grand Warden; Jas. E. Laidley, of San Fraucisco, (reëlected), Grand Treasurer; Alexander G. Ahell, of San Fraucisco (reëlected), Grand Secretary.

THE ship Asa Eldridge is discharging iron, for the Gilroy Railroad, at Cowoll's wharf.

Steps Necessary to Procure a Patent.

The FIRST thing required is a model, if your invention can bo represented by one. It is not only immediately necessary in preparing the papers, but tbe law demands that the inventor shall, in all cases, furnish a model, which mnst not exceed twelve inches in any of its dimensions. A medel of less size will answer when more convenient. It should be nently made, and of hard wood or metal, or both, varnished or painted; the namo of the inventor should be eograved or painted on it in a permanent manner.

When the invention consists of an improvement on some known machine, a full working model of the whole will not be necessary. It should he sufficiently perfect, however, to show, with clearness, the nature and operation of the invention.

As soon as the model is ready, it should be carefully boxed and shipped by express, or otherwise, to our address, namely: DEWEY & CO., *Mining and Scientific Press, San Francisco.* Prepay expenses nnd send express receipt to us by mail.

A full description must also be sent with the model, embodying all the ideas of the inventor respecting the improvement.

Simultaneously with the model, the inventor should send us the first instalment of the Government fee, fifteon dollars. The money may be forwarded either by express with the model, or by mail. The safest way to remit is by draft on San Francisco, payable to our order. Always send a letter with the model, and nlso the remittance, stating the name nnd address of the sender. On receipt of the model and Government first fee of $15 in currency, the case is duly registered on our books, and the applicntion proceeded with as fast as possible. When tho documents are ready we send them to the inventor by mnil, for his examination, signature and affidavit, with a letter of instruction, etc. Our fee for prepnring the case is then due and will he enlled for. The cnse will then bo presented to the Patent Office, and as soon as the patent is ordered to be issued the Government last fee of $20 in currency will be required. The lnw stntes that every patent shall be dated as of a day not inter than six months after the time at which it wns passed nnd allowed, and notice thereof sent to the applicnnt or his agent. And if the finnl fee for such patent be not pnid within the said six months, the patent shnll be withheld, and the invention therein described shall become public property as against the applicant therefor.

Inventors who do business with us will be notified of the state of their npplication in the Patent Office, when it is possible for us to do so We do not require the personal attendance of the inventor, unless it is one of great complication, ns the business enn be well done by correspondence.

When the invention consists of n new article of manufacture, n medicine, or a new composition, samples of the separnte ingredients, sufficient to make the experiment, and also of the mnnufactured article itself must be furnished, with full description of the entire prepnration.

The nverage time required to procure a pntent, when the case is conducted nt our ngency, is ten weeks. We frequently get them through in less time; but in other cases, owing to delay on the part of Government officials, the period is sometimes extended to four or five months, and even more. We make a special point to advance our cases as rapidly as possible.

Candid Reasoning.

A gentleman eminent for his ability in all points pertaining to specifications, gives inventors the following sound advice:

To properly prepare a specification may seem a very simple and easy tnsk, hut such is not the case. It requires a knowledge of the arts, of science and scientific terms, and their proper use—of mechanics and the principles that govern their nction—of law, nnd of the grammatical and legal force and construction of languago, which is possessed by but very few persons.

Lawyers seldom possess the mechnnical knowledge, while mechanics still more generally lack the legal knowledge necessary to enable thom to properly preparo a case for examination.

It requires such a *combination* of legal and mechanical knowledge, together with a special knowledge of the principles nnd rqles that govern the action of the office, that no person is really competent to undertake the business but those who *have made it a study, or had experience at it.* In view of these facts I unhesitatingly advise every person who has an invention worth patenting to get some responsiblo and competeut agent to attend to it for him.

No person scarcely would think of entering upon a suit at law without employing a lawyer to attend to it, and make out his papers for him; and if a sensible man would not do that, much less would he nttempt to prepare an application for a patent without knowing anything nbout tho business.

I nm awaro that persons frequently attempt it, but I am also aware that *many lose their patent simply in consequence of not having their case properly prepared, or not knowing how to amend it so as to avoid the references given when once rejected.*

Besides this, many times when they succeed in obtaining the patent, they find afterwards that it will not stand in law, or does not cover their invention, nnd is therefore useless. It is for this reason that many applicants are compelled to reissne their patents at as great, and often greater expense, than the obtaining of the original.

Hence I repeat, every person having an invention worth patenting should employ a competent nnd responsible agent—I say *competent and responsible*, for, unfortunately, there are many who are neither competent nor responsible.

If worth filing nt all, these cases should be prepared with very great care and caution.

One intentor on this Coast, who had filed n caveat by an attorney, was, sometime afterwnrd, surprised to find that his invention, which was a very important one, hnd been patented and was being brought out by an eastern company with a capital of more than a million of dollnrs. Upon inquiring at the Patent Office, he was informed that his caveat was inoperative by reason of imperfections and his net having complied with the law in that case as made and provided.

Inventors will oftimes find it very important to take advantage of the enveat system—the expense under the law being comparatively small.

To enable us to prepnre caveat papers, we only require a sketch and description of the invention; no model being necessnry.

If an inventor publicly uses and sells his invention, prior to mnking application for a patent, he cannot, afterward, prevent others from doing the same thing; nnd should nny party put the invention into use, before such application for a patent is made, they could continue to use the specific machine or composition of matter after the patent is issued to another. Filing a caveat does not give the right to affix the words, "Patented, or "Patent applied for."

Self-Evident Facts.

Having had lnrge experience, and gratifying success with tho great variety of cases emanating on this coast, we feel confident of our abilities to assist inventors in patenting their inventions, saving them from vexatious delays, nnd from receiving worthless papers by reason of imperfect preparation of their claims before being sent to the Patent Office.

The branch of Patent Law is of itself n SPECIALITY of legal jurisprudence; or, as Mr. Phillips, an eminent patent lawyer, justly remnrked: "The metaphysics of the law."

In early days but little prepnration was oeeded, or but ordioary skill required to obtain a pateat; but now, by reason of the multiplicity of inventions, nnd the numerous Acts of Congress, fennd necessary to protect the inventor while the patent lasts, nnd to do justice to the people after it expires, the utmost eare and skill are requisite in managing eases and obtaining a patent that will be of real value to the Patentee, and stand the test of passing through the legal ordeal of an infringement suit.

The generul practice of the Patent Office regnrding the examination or issue of Letters Patent for inventions has not been materially ehsnged for many years, yet there hnve been amendments added to the laws of 1861, 1863, nnd 1866, and which it is necessnry for nll parties managing nn application to be conversant with. Old inventors invariably advise the employment of none but agents of *responsibility* nnd *experience.* As ngents with such qualifications, we solicit honest patronage.

Re-Issues.

When, through "inadvertence, nccident, or mistnke," nn *insufficient* or *defective* patent has been issued, the defects in the Specification and Claims can be cured by a *re-issue.* In order to obtain this, tho inventor, or the holders of the patent, must surrender the pntent, and file an nmended specification and drawings, and a statement specifying the ground for asking for a re-issuo. Re-issues are generally npplied for after it has been found thnt the patent could not withstand litigation. It is, therefore, especinlly desirnble that the new Specification and Claims should be prepnred with great care and skill. Terms liberal in these eases.

Dangers of Delay.

Situnted so remote from the seat of Government, delays are even more dangerous to the inventors of the Pacific coast than to applicants in the Eastern States. Vnluable patents mny be lost by the extra time consumed in transmitting specifientions from Eastern ageneies back to this coast for the signature of tho inventor, or by reason of return for amendment when nddressed directly by the inventor to the Government.

Illustrate your Innentiovs.

Too many ingenious inventors lose the value of their genius and labor by oot bringing their improvements conspicuously or plainly enough before the public—the general reading public.

One of the best means—and the cheapest, too—for eliciting attention to a new invention, is that of illustrating and describing it in the columns of the MINING AND SCIENTIFIC PRESS. To do this in the case of a meritorious improvement (and none other will be accepted), will cost our patrons no more than the price of a first-clnss engraving.

With a cheap representntion we will have nothing to do, as it would be calculated to injure both tho inventor and ourselves.

We also take especial pains in furnishiag engraviogs and electrotypes of snperior merit, of all kinds, at fair rates, and tender our patrons the benefit of our practice and experience, by advice and assistanco, in gettiug up tbeir circulars, advertisements, etc.

DEWEY & CO.,

Patent Solicitors, Mining and Scientific Press Office,
414 Clay Street, below Sansome, San Francisco.

SEPTEMBER, 1868.

ATTENTION.—Virginia City, Aug. 9th, 1868—Dewey & Co., San Francisco.—Gents:

The Patent, enclosing your favor with Inventor's certificate, etc., came duly to hand, and for which please accept my grateful acknowledgements.

I am pleased to learn that the business of your agency for Patents, etc., is rapidly increasing. This is as it should be. Your promptness, fidelity and skill, as Patent Agents, entitle you to public confidence and patronage.

I can see no good reason why Inventors on the Pacific Coast should employ agents in New York and other Eastern cities to transact their business at the Patent Office, when we have among us those equally qualified by long study and large experience.

Yours truly, J. A. C.

Weekly Stock Circular.

y Associated Brokers of the S F. Stock and Exchange Board.

San Francisco, October 24, 1868.

Financial.

The Commercial Herald, of the 22d inst., has the following relative to our local money market:

The San Francisco money market is one of the steadiest n the world. The quotations for eighteen months have undergone little change. Coin is abundant, and can be obained in bank at the frozen rates of 1@1½ per cent per month. The cash employed to move our crops is returning gain, increasing deposits and keeping the market easy. utlinn is inactive at present, and gold bars have changed o 869 from 870, at date of our last issue. Silver bars remain nchanged, ruling from par to ¼ per cent. premium; currency bills have declined 1 per cent, being a fall of 3 per cent. since October 6th, and are now 35@25½ per cent. premium on gold; sight drafts, payable in coin, obtain 1 per ent. premium; telegraphic transfers, 1½ per cent. premium; sterling exchange, 48¾@49d; commercial do, 49½d; Mexican dollars, 1½@5 per cent., being a decline of 1½ per ent. since October 6th. Large capitalists readily advance oney on grain deposited in their warehouses, at 1 per cent. er month, while outside lenders demand 1½ per cent. ew York telegrams quote Gold at 137¼. In this city Legal enders are selling at 72@72½c.

There are very strong indications that the Central Pacific ailroad Company has secured the refusal of the lands and uildings belonging to the Pacific Mail Steamship Company t Benicia. That property now consists of thirty-two acres ying along the water, with a frontage of sixteen hundred neal feet. Considerable activity has been shown by certain parties in purchasing adjacent lands, and much secrecy as been observed in these transactions. It is probably the ntention to establish at that spot the machine and railroad shops for the railroad, and also to make it a great *warehouse* for grain. The Central company has likewise ought a controlling interest in the Oakland Railroad and Ferry Company, and having taken the Washoe and the Oakland ntil the route, is employing them for the transportation f rails and other materials to Sacramento. At the same ime the company is building a large and commodious wharf t the foot of Second street, probably with the intention of rossing freight for Oakland and back from that point, while the passenger boats will continue to cross, as before, rom the foot of Pacific street. We note, furthermore, that he California Steam Navigation Company has concluded to ass dividends for the present in order to build two fast, rst-class boats to run between San Francisco and Sacramento to compete with the railroad from Vallejo to Sacramento, and the branch road to Benicia, which has been surveyed, and another boat to be placed on the Stockton route, s a night boat. The opposition now existing on this route akes passengers to Benicia for 50 cents, while the regular ine demands $2. The inland trade and passenger movements of this State are becoming so large that they will ive ample employment to all at reasonable rates; but if war to the knife, and the knife to the hilt," is to be the rder of the day, it is probable that all partice will become omewhat crippled in the engagement. Whatever tends to nprove the condition of Benicia, Vallejo, Oakland, and ther neighboring towns, will materially add to the prosperity of this city, the center of capital, manufactures and ommerce, and the natural maritime mistress of the Pacific. In proof of the rapidity with which our commerce is xtending, we cite the assertion of one who is in a position o know, that in less than one year the P. M. S. S. Company vill be running weekly steamers to Japan and China.

City Stocks.

The transactions in miscellaneous stocks were somewhat more extensive than the previous week, and st ss ull figures as previously reported. San Francisco Gas tock realized $77 50 per share; Spring Valley Water, 66 50; Oakland Railroad, $60, and Union Insursnce Co. 92@92 50. Lsrge sales of Legal Tenders were made uring the week, rising to 73@73½ cents.

The Mutual Savings Building and Loan Society recently filed its certificate of incorporation. The object f the incorporation is the aggregation and preservation f funds for their mutual benefit. The Trustees are H. oseKrans, J. N. Russ, William B. Lake, Howard Chapman, Charles Hansen, George W. Stevens and J. W. Winger.

The receipts of the local insurance companies during the onth of September and previously this year, according to is returns in the hands of the Internal Revenue Collector f this district, have been as follows:

	September	*Previously this year.*	*Total.*
acific	$35,607	$340,439	$376,046
nion	36,490	276,098	312,526
ational	.....	201,253	201,253
reman's Fund	25,473	152,556	178,029
uilders'	19,836	161,577	181,413
alifornia	21,644	94,587	116,231
erchants' Mutual Marine	26,569	146,618	173,187
ecidental	12,156	65,432	77,588
ome Mutual	14,176	86,844	101,020
an Francisco	.....	25,974	25,974
eoples'	8,350	51,812	60,162
Totals	$220,241	$1,803,190	$2,063,431
Same time in 1867	233,210	1,494,972	1,730,182
Increase in 1868	$25,031	$308,218	$333,249

The returns were made upon a legal tender basis, the ate—72 cents for January, 71 cents for February, 72 cents r March, April, May and June, 70 cents for July and August, and 72 cents for September—being fixed every month y the Assessor of the district.

The National and San Francisco have disincorporated id their outstanding risks have been transferred to the ondon and Liverpool and Globe Insurance Company. The an Francisco dishursed a dividend of 2½ per cent. per nnath, or $7 50 per share, for the quarter ending with September 30th.

The above statement shows an increase of $18,805 as ainst the receipts in August. The receipts of the several ompanies in September, as compared with August, show e following difference:

	Increase.	*Decrease.*
acific	.....	$307
nion	.....	8,094
reman's Fund	$5,059	.....
uilders'	711	.....
alifornia	14,114	.....
erchants' Mutual Marino	1,388	.....
ecidental	.....	377
ome Mutual	1,219	.....
eople's	2,052	.....

The receipts of the city railroads for the month of September and previously this year, have been as follows:

	September.	*Previously this year.*	*Total.*
onibue	$27,142	$203,651	$230,793
orth Beach & Mission	24,062	180,808	204,870
entral	16,223	113,579	129,802
ont Street, Misaion & Ocean	9,586	67,595	76,961
arket Street	11,737	72,836	84,573
otrero and Bay View	2,636	16,319	18,955
Totals	$91,186	$654,788	$745,974
Same time in 1867	78,488	529,372	607,860
Increase in 1868	$12,698	$125,416	$138,114

Showing an aggregate decrease of $5,459 in September as against the receipts of August. The receipts of September as compared with August show the following difference:

	Increase.	*Decrease.*
Omnibus	.....	$764
North Beach and Mission	.....	2,962
Central	.....	1,101
Front Street, Mission and Ocean	.....	458
Market Street	.....	261
Potrero and Bay View	.....	314

The receipts of the San Francisco and San Jose Railroad were $39,823 in May; $51,425 in June; $52,502 in July, $52,953 in August, and $53,148 in September. The Mission Bridge Co. report receipts for August to be $1,201, and for September $1,038.

Mining Share Market.

The mining share market during the past week has shown considerable activity, notwithstanding the general derangement of business consequent upon the severe shock of earthquake experienced on the morning of the 21st instant. The Board adjourned for that day, and at its sessions the following day stocks generally ruled higher. At the close this market is very firm, and leading descriptions of stock show a marked advance.

The White Pine mining district in Nevada is creating considerable excitement. The rock in appearance is reported to equal that taken from the Mexican mine, on the Comstock, in 1860. As we are informed that there are thousands of tons of the same kind of ore in White Pine, it is believed that next summer that district will be the most flourishing place in Nevada. A number of mills in the Reese River district will be removed to White Pine this winter. The discovery of the White Pine mines is another indication that mining in Nevada is only in its infancy, and that its future as a State continues to look bright.

Alpha—advanced from $41 50 to $47, and closed at $46. On the 21st inst., the south drift on the 910 level was in nineteen feet, and it is said there are some good spots of ore in the "face," average assays showing $41 to the ton. The north drift is in twenty-one feet with no change. They intend to make a cross-cut west from the south drift so soon as they are some fifteen feet further south. At present the west side of the drift looks the most favorable.

Overman—sold quite freely, improving from $75 to $84, and at the close selling at $81. On the 15th, $3,413 in bullion was sent forward, and on the 19th, $3,421. They are extracting an increased amount of ore. On the 18th inst., they took out 110 tons. The mine is reported to look well, and the ore is said to average much higher the present month.

Chollar-Potosi—opened at $141, advanced to $146 50, and closed at $146. During the week ending October 16th, 1,086 tons of ore were extracted, all of it being taken from the Blue Wing ground. This section is said to be more promising, the ore averaging better, and the quantity exposed is reported to be larger than at any time since work was commenced on this stope. The north drift on the 1,100 level, new mine, is in very hard rock. On the 20th instant, 139½ tons of ore were sent to five different mills.

Imperial—commands better prices, having advanced from $106 to $115, and closed at $114. On the 21st inst., the Imperial-Empire shaft was 117 feet in depth below the 900 level, the rock being softer, enabling them to sink two feet a day. The main drift of the 900 level is in clay, and it will require three or four days, it is thought, to run through it. The drift ont of winze 50 feet below the 700 level of the Alta mine is now in 36 feet, showing some threads of ore. Both bodies of ore on the 600 level and that on the 400 level continue to produce the usual amount of ore. They hoist at present about 150 tons per day. The receipts of bullion so far for October account aggregate $19,196.

Crown Point—sold early in the week at $41 50@49, then at $44@46, closing at $48. A telegram received on the 22d, reads—"No change whatever in the mine. The 900 level is opened up so that they can run the mill without interruption."

Kentuck—changed hands to a moderate extent within a range of $273@280, and closed at $280. The receipts of bullion to date for October account foot up $27,678.....

Ophir was in the market at $19. On the 21st inst., the shaft had attained a depth of 600 feet.....Savage was again largely dealt in at a decline, receding from $91 to $82 60, then selling at $86 60, and closing at $89.

Amador—sold at $230. On the 16th inst., the Badger shaft was 40 feet in depth below the lower level, the vein remaining same width as previously reported—three feet—and looking a little better. A dividend of $5 per share is payable since the 20th....Eureka (Cal.) shows a bullion yield of $474,134 for the fiscal year ending September 30th, 1868, being the product of 16,087 tons of ore, of which 143 tons were sulphurets, showing an average yield of $29 47 per ton. A dividend of $5 per share is payable since the 22d instant. Out of this $270,000 were disbursed in dividends.

Gold Hill Quartz—dispatched $1,950 of bullion on the 19th inst....United States levied an assessment of $1 per share on the 15th inst....Julia levied an assessment of $1 60 per share on the 22d inst.

The sales in the San Francisco Stock and Exchange Board during the past week heve been as follows: Open sessions, $412,697; Regular sessions, $1,304,556—total, $1,717,523.

With dyspeptics everything is wrong. Food does not digest; sleep does not refresh; wine does not cheer; smiles do not gladden; music does not charm, nor can any other joy enter the breast of the miserable dyspeptic. You must get rid of it or it will become seated and confirmed, and life will be a burden and existence a curse. Plantation Bitters will do away with all this. New life, strength and energy will take possession of you. The damask will again bloom upon your cheek, and the luster in your eye will again be as bright as in your healthiest, happiest and most joyous days. *

Changing the Address.—No charge is made for changing the address of this paper. To give all necessary information, write us plainly as follows: "Change address of the *Mining and Scientific Press* from Mr. .... at .... P. O., ... County, ... State, to Mr. .... at .... P. O. .... County, ... State..... 186—."

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE.
Alameda Coal, Sept. 17, 50c	Oct. 27	Nov. 16
Amador Co., dividend, $5 per share	Payable Oct. 20, 1868	
Bunker Hill, Amador co., May 19, $10	Oct. 6	Oct. 26*
Bullion, Aug. 19, $10	Payable immediately	
Bacon, Storey co., Nev., div.	Payable June 19, 1868	
Belcher, Storey co., Nev., Oct. 6, $25	Nov. 6	Dec. 8
Belcher, Storey co., Nov	Meeting, Nov. 2	
Badger Hill & C. G. Co	Meeting, Nov. 7	
Cordillera, Mex., Oct. 16, $1	Nov. 18	Dec. 7*
Chollar Potosi, div., $25	Payable Oct. 15, 1867	
Chihuahua, Mexico, Sept. 7, $5	Oct. 9	Oct. 26*
Crown Point, dividend, $7.50	Payable Sept. 12, 1868	
Diamond, Del Norte co., Feb. 4, $2	Oct. 7	Oct. 26*
Folsom St. & Ft. Pt. R. R., Sept. 11, $5	Oct. 13	Oct. 23
Empire M. & M., Nev., dividend $6	Payable May 15, 1867	
Eureka, div. $5	Payable Oct. 22, 1868	
Gould & Curry, div., $7.50	Payable May 15, 1867	
Gold Hill Q M & M—dividend, $7 50	Payable July 13, 1868	
Golden Rule, Tuolumne co. div 50c ₱ sh	Payable Aug. 23*	
Great Central, Arizona, Oct. 9, $2.50	Nov. 11	Dec 30*
Gold Hill Tun., Storey co., Nev. Oct. 9, $7	Nov. 18	Dec. 9
Glenwood Mill, El Dorado co., Oct. 10, $50	Nov. 20	Dec. 9*
Hope Gravel, Nevada co., Oct. 5, $1	Nov 10	Nov. 30*
Hale & Norcross, div., $125	Sept 16, 1867	
Hale & Norcross, Virginia, Oct. 12, $10	Nov. 14	Dec. 5
Imperial, Storey co., Nev., div.	Payable June 20, 1868	
Kentuck, div., $20 per share	Payable Oct 10, 1868	
Kearsarge, Inyo co., Sept. 18, $1	Oct. 22	Nov. 10*
Morning Star, Alpine co., Sept. 25, $2.50	Nov. 2	Nov. 23
North Star	Meeting Oct 31	
North Star, dividend, $5	Payable Aug. 15, 1868	
N. A. Wood Preserving Co., Sept. 3, 50c	Oct. 5	Oct 27*
Nevada County M. Co., $1	Nov. 18	Dec. 19*
Providence, Nevada co., Sept. 11, $2	Oct. 17	Nov. 5*
Pacific Unassessable, div.	Payable June 18, 1868	
Pacific Coal, Sept. 19, $12.50	Oct. 29	Nov. 18
Rising Star, Idaho	Meeting, Nov. 2	
Rattlesnake, Yuba co., Oct 13, $2	Nov. 18	Dec. 7*
Rising Star, Idaho, Sept. 11, $7.50	Oct. 24	Nov. 25
Rippon, Alpine co., Oct. 15, $1	Nov. 19	Dec. 8*
Savage, Virginia, Nev, dividend, $5	Payable Oct. 10, 1868	
Sierra Nev., Storey co., Nev., Sept. 25, $10	Oct. 27	Nov. 14
Santiago, Silver City, dividend	Payable Sept. 10, 1868	
Sand Spring Salt, dividend $1	Payable June 6, 1868	
United States, $1	Sale Nov. 18	
Virginia & G. H. Water Co	Dividend, payable May 15	
Washington, Nevada County	Annual Meeting, Nov. 3*	
Yellow Jacket, div., $75	Payable July 10, 1867	

Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. Stock and Exchange Board.

Friday Evening, Oct. 24, 1868.

MISCELLANEOUS STOCKS.	*Bid.*	*Asked.*
United States Bonds, 5 20s	$ 80	81
Legal Tender Notes	71½	74
California State Bonds, 7s, 1857	95	95
San Francisco Bonds, 10s, 1851	par & int.	
San Francisco City Bonds, 6s, 1855	—	—
San Francisco School Bonds, 10s, 1860	100	—
San Francisco School Bonds, 10s, 1861	par & int.	
San Francisco City and County Bonds, 6s, 1858	85	99
San Francisco City and Co. Sch'l B'ds, 7s, 1866	90	—
San Francisco City and Co. Bonds, 7s, 1862	90	91
San Francisco City and Co. Bonds, 7s, 1864	90	—
San Francisco City and Co Bonds, 7s, 1865	90	—
San Francisco City and Co. Judg. Bds. 7s, 1863	90	—
San Francisco City and Co. Judg. Bds, 7s, 1864	90	—
Sacramento City Bonds	23	25
Sacramento County Bonds, 6s	70	73
Marysville Bonds, 10s	75	80
Stockton City Bonds	60	70
Yuba County Bonds, 8s	77	78
Santa Clara County Bonds, 7s	75	77
Butte County Bonds, 10s, 1865	70	75
San Mateo County Bonds, 7s	75	80
California Steam Navigation Co	60	65
Spring Valley Water Co	66	66
State Telegraph Co	25	29
GAS COMPANIES.		
San Francisco Gas Co	77	77½
Sacramento Gas Co	—	75
RAILROADS.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	46
Omnibus Railroad	70	—
Central Railroad	55	58
North Beach and Mission Railroad	70	71
Front Street, Mission and Ocean Railroad	17	21
BANKING INSTITUTIONS.		
California, Loan and Savings Society	—	—
Pacific Bank	97½	100
The Bank of California	157	158
INSURANCE COMPANIES.		
Firemans' Fund Insurance Co	92½	94
Pacific Insurance Co	124	125
San Francisco Insurance Co	—	105
Merchants' Mutual Marine Insurance Co	500	525
California Insurance Co	1300	1400
Union Insurance Co	92	93
California Home Insurance Co	19	—
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	72	—
National Insurance Co	72	—
Builders' Insurance Co	—	—
MINING STOCKS—WASHOE DISTRICT.		
Alpha	45	46½
Baltimore American	—	—
Belcher	140	145
Bullion, G. H.	—	—
Crown Point	46	47
Confidence	20	30
Chollar-Potosi	145	146
Daney	4	5
Exchequer	13	17
Empire Mill and Mining Co	110	140
Gould & Curry	92½	96
Gold Hill Quartz	45	60
Hale & Norcross	48	49
Imperial	110	116
Kentuck	231	282
Lady Bryan	11	12
Ophir	18	20
Overman	80	81
Savage	89	90
Sierra Nevada	20	20½
Yellow Jacket	1180	1185
Golden Rule, California	7	13

San Francisco Market Rates.

Wholesale Prices.

Friday, Oct. 24, 1868.

Flour, Extra, ₱ bbl	$5 75	@$6 25
Do. Superfine	5 00	@ 5 25
Corn Meal, ₱ 100 lbs	3 25	@ 3 50
Wheat, ₱ 100 lbs	1 50	@ 1 85
Oats, ₱ 100 lbs	1 55	@ 2 05
Barley, ₱ 100 lbs	2 00	@ 2 25
Beans, ₱ 100 lbs	3 00	@ 4 00
Potatoes, ₱ 100 lbs	1 00	@ 1 25
Hay, ₱ ton	10 00	@16 00
Live Oak Wood, ₱ Cord	9 00	@10 00
Beef, extra, dressed, ₱ lb	8	@ 10
Sheep, on foot, ₱ lb	3 00	@ 3 25
Hogs, on foot, ₱ lb	4½	@ 5
Hogs, dressed, ₱ lb	8	@ 9

Groceries, etc.

Sugar, crushed, ₱ lb	15	@ 15½
Do. China	10	@ 11½
Coffee, Costa Rica, ₱ lb	16	@ 16½
Do. Rio	—	@ —
Tea, Japan, ₱ lb	75	@ 90
Do Green	60	@ 1 25
Hawaiian Rice, ₱ lb	8	@ 10
China Rice, ₱ lb	6	@ 6¾
Coal Oil, ₱ gallon	35	@ 40
Candles, ₱ lb	15	@ 17
Ranch Butter, ₱ lb	50	@ 65
Isthmus Butter, ₱ lb	30	@ 38½
Cheese, California, ₱ lb	15	@ 20
Eggs, ₱ dozen	60	@ 62
Lard, ₱ lb	13	@ 14
Ham and Bacon, ₱ lb	14	@ 18
Shoulders, ₱ lb	6	@ 8

Retail Prices.

Butter, California, fresh, ₱ lb	60	@ 75
do. pickled, ₱ lb	30	@ 40
do. Oregon, ₱ lb	15	@ 25
do. New York, ₱ lb	35	@ 45
Cheese, ₱ lb	20	@ 25
Honey, ₱ lb	25	@ 30
Eggs, ₱ dozen	50	@ 75
Lard, ₱ lb	15	@ 17
Hams and Bacon, ₱ lb	23	@ 25
Cranberries, ₱ gallon	85	@ 1 00
Potatoes, ₱ lb	2	@ 3
Potatoes, Sweet, ₱ lb	3	@ —
Tomatoes, ₱ lb	3	@ —
Onions, ₱ lb	3	@ —
Apples, No. 1, ₱ lb	4	@ 5
Pears, Table, ₱ lb	5	@ 7
Plums, dried, ₱ lb	11	@ 13
Peaches, dried, ₱ lb	—	@ —
Oranges, ₱ dozen	75	@ 1 00
Lemons, ₱ dozen	1 00	@ 1 50
Chickens, apiece	50	@ 75
Turkeys, ₱ lb	20	@ 25
Soap, Pale and C. O	7	@ 12
Soap, Castle, ₱ lb	15½	@ 16

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

Friday, Oct. 24, 1868.

Iron.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar, 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1¾c ₱ lb; Pipe, 1¾c ₱ lb; Galvanized, 2¾c ₱ lb.

Scotch and English Pig Iron ₱ ton	$— 00	@$34 50
White Pig ₱ ton	— 00	@ 34 50
Refined Bar, bnd assortment ₱ lb	— 03	@ — —
Refined Bar, good assortment, ₱ lb	— 04	@ — —
Boiler, No. 1 to 4	— 04¾	@ — —
Plate, No. 5 to 9	— —	@ — 04¾
Sheet, No. 10 to 13	— 04¾	@ — 5
Sheet, No. 14 to 20	— 05	@ — 5¼
Sheet, No. 24 to 27	— 05	@ — 6¼
Copper.—Duty: Sheathing, 3¾c ₱ lb; Pig and Bar, 2½c ₱ lb		
Sheathing, ₱ lb	— 28	@ — 26
Sheathing, Yellow	— —	@ — 22
Sheathing, Old Yellow	— 11	@ — —
Bolts	— 21	@ — 22
Composition Nails	— 21	@ — 22
Tin Plates.—Duty: 25 ₱ cent. ad valorem.		
Plates, Charcoal, IX, ₱ box	12 00	@ — —
Plates, I C Charcoal	— —	@ 11 00
Roofing Plates	10 00	@ 10 50
Banca Tin, Slabs, ₱ lb	— —	@ — 30
Steel.—English Cast Steel, ₱ lb	— —	@ — 15
Quicksilver.—₱ lb	— 55	@ — 60
Lead.—Pig, ₱ lb	— 7½	@ — 8
Sheet	— 10	@ — —
Pipe	— 11	@ — —
Bar	— 9	@ — 9½
Zinc.—Sheets, ₱ lb	— —	@ — 9¾
Boaax.—California, ₱ lb	— 20	@ — 23

San Francisco Prices of Copper Ores.

San Francisco, Oct. 23, 1868.

We give the following as an approximate price at which copper ores can now be sold in this city. There is no sale for ores which assay less than 12 per cent. The late reduction in price is on account of the advance of freight:

Per ton.		*Per ton.*
12 per cent. ore	$16 00	22 per cent. ore $43 66
13 " "	18 62½	23 " " 46 45
14 " "	20 20 24	" " 49 33
15 " "	23 35 25	" " 52 22
16 " "	26 22 26	" " 55 11
17 " "	29 12 27	" " 58 00
18 " "	29 91 28	" " 60 80
19 " "	34 90 29	" " 63 77
20 " "	37 78 30	" " 66 66
21 " "	40 67 31	" " 69 55

These prices, we believe, will be found substantially correct, and can be realized at this date.

New York Metal Market.

[Corrected weekly from the American Artisan.]

New York City, Sept. 19, 1868.

IRON.		
Pig, Scotch, No. 1 (cash) ₱ ton	$39 00	@$44 00
do. American, No. 1 (cash)	37 00	@ 38 00
do. do. No 2	33 00	@ 36 00
Swedish, ordinary size	155 00	@155 00
Common	90 00	@ 95 00
Refined	95 00	@115 00
Rods	100 00	@160 00
Horse-shoe	125 00	@ — —
Hoop	130 00	@130 00
Scroll	130 00	@175 00
Nail rods, ₱ lb	— 12½	@ — 10
Spring	— 10	@ — —
Tire	— 10¾	@ — —
STEEL.		
Bars, best cast, warranted, ₱ lb	— 24½	@ — —
Sheet, do	— 23	@ — —
do. second quality	— 20	@ — —
do. ordinary quality	— 17	@ — —
Saw-plates, circular	— 29	@ — —
Double-shear, warranted	— 23	@ — —
Single do	— 20	@ — —
Montague & Co. (cast bars)	— 20	@ — —
Machinery, round	— 15	@ — —
German, best	— 17½	@ — —
do. goat	— 12½	@ — —
do. eagle	— 14	@ — —
Blister, warranted	— 17	@ — —
do. common	— 16	@ — —
Jessop & Sons', common	— 17	@ — —
Double-refined	— 23½	@ — —
Stone-axe shapes	— 26½	@ — —
BRASS.		
High, various widths, ₱ lb	— 46	@ — 52
Platers'	— 51	@ — 59
Sheet	— 48	@ — 56
Sheet, circular	— 53	@ — 63
Low	— 50	@ — 56
Wire	— 47	@ — 1 15
LEAD.		
American, ₱ 100 lbs	9 50	@ 10 25
German	10 00	@ — —
Bar	11 00	@ — —
Pipe and Sheet	12 00	@ 12 00

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DEWEY & CO.,

Patent Agents, Publishers and Job Printers, 505 Clay st.

Mining Summary.

THE following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

Until after the political cauldron has ceased to boil, and our country cotemporaries have recovered their usual good natures, our summary of mining news will necessarily be short.

CALIFORNIA.

Alpine County.

Markleeville *Miner* October 10th: Gamble re-assumes charge of the Morning Star mine on Monday. We learn from him that it is the desire of the Company, and his intention, to push forward the work, and place the mine in shape to supply ore to such reduction works as they may adopt—the same being now under consideration—at as early a day as possible.

Amador County.

Jackson *Ledger* Oct. 17th: Large quantities of machinery for the Casco mill has passed through this place during the week.

Mr. Haley, of San Francisco, principal owner in the Casco mine at Middle Bar and the Union mine at Pine Grove, informs us that he intends to begin work on the latter mine again at an early day.

The work of taking down the machinery formerly used by the Butte Basin Mining Company, has been commenced preparatory to removing it to the Anacouda mine, near Pine Grove.

Mariposa County.

Mail, Oct. 6th: Mariposa county is no doubt the richest in minerals of any county in the State. Although things have looked gloomy for the last year, our latest advices indicate a healthier aspect of affairs. Hite & Co's new mill, in Hite's Cove, is in successful operation; it has just double the capacity of the former mill; it gives employment to twice the number of laborers. It is unnecessary for us to speak of the richness of the mine: suffice it to say that this mine is second to none in the State. John W. Wilcox commenced operations on Monday last, on a recently discovered vein, situated a short distance below the Benton Mills, on the Merced river; he inteuds to erect a mill on the vein before winter. Judging from the prospects, this mine will be a great source of revenue to its owners and to the county. Harbor, Williams, Fine & Co., are busy in erecting a mill on their vein, near Buckingham Mountain, which will be in operation by the first of December. This is also a newly discovered vein. The owners have already several hundred tons of rock on their mill site, which will more than repay for building their mill and prospecting the vein. The Mariposa Co. also show some signs of activity, and if the season is favorable, will have some of their mills in operation by the first of January.

John W. Wilcox and W. W. Ketton, of Bear Valley, have purchased the rich and valuable mine, situated on the Merced river, about one mile below the Benton Mills. The vein was discovered by Lucien Gilman. The interest purchased is 2,000 feet in length, of an average of from one and a half to three feet in width. It is one of the richest, and soon will be one of the most productive mines in Mariposa county. Ample tests of the rock have already been made, showing conclusively that the rock, taking it all as quarried from the mine, will yield $100 per ton. Already a "gang" of men have been set at work upon the mine, quarrying out the rich ore, preparatory to the immediate erection of an 8-stamp mill. The mine is to be named, and hereafter known as the "Maggie Russell."

Gazette, Oct. 16th: It is reported that a rich strike was made near Hornitos a few days ago by a couple of lucky miners. Rumor has it that as much as 50 pounds of gold have been taken from the pocket. It was located on the hill back of Hall's Hotel.

Hite's new quartz mill is in fine working order, is now crushing about 16 tons of rock per day, which, as near as we could learn, is paying handsomely. Everything indicates prosperous times in store for that region.

We learn from a gentleman recently from Buchanan Hollow that Villas & Co., proprietors of the mine at that place, are now working some 50 hands and are shipping about 50 tons of copper per week. The prospect is brightning.

Nevada County.

Transcript, Oct. 14th: The Bed-Rock Tunnel Co. of Bridgeport township, have completed their tunnel to a point under the channel for which they are running. The tunnel is 2,503 feet in length, 300 feet below the bed-rock and 429 ft. below the surface. When the shaft is raised it will give sufficient drainage to a number of excellent mining claims on Johnson's Hill. The ground was prospected in 1860 and the tunnel was commenced in 1862.

Oct. 15th: Wm. Young & Co. have located 1,400 ft. on a quartz ledge on Wolf Creek, one mile east of Grass Valley.

The Savage Co. have located 1,400 ft. at Ray's ranch, Grass Valley township. This location is near Dead Man's Flat, and 1½ miles from the North Star claims.

The East Idaho Co. has located 800 feet adjoining the Grass Valley Consolidated Co.

The Giant ledge has located 1,500 ft. on a ledge located in Grass Valley township: 200 yards from the old Mount George saw-mill on Wolf Creek.

Grass Valley *Union*, Oct. 14th: The Mutual Gold Mining Co. at Eureka, continues to mine and mill their rock at $5 per ton.

The Salathiel quartz mine, above Omega, has suspended operations. Twenty-five or thirty men are employed....When the new mill of the Coe mine is ready to run the working force of the mine will be largely increased.

Oct. 15th: Not a single rich mining strike was to be heard of on the streets yesterday—but yet they are of such frequent occurrence in this district as not to excite unusual comment.

Oct. 15th: There was brought to Findley & Co's Bank yesterday, from the North Star mine, a large piece of vein rock, that was truly a magnificent specimen of mineral richness. The rock was about 70 lbs. in weight and running entirely through it, mixed in beautiful combination, was gold, galena and sulphurets. This specimen attracted unusual attention—although rich quartz is by no means rare in Grass Valley—and experienced miners and quartz men united in the opinion that in real mineral wealth, it was the finest specimen they had ever seen in the district. But the most gratifying fact in connection with it, to the North Star Co., is that it is characteristic of the vein on the seventh or 1,040-ft. level, at a distance 292 east of the shaft, where the workmen have just opened on a portion of the vein that presents the appearance of being equally as rich as this piece. At this point the vein is full four feet in width and extraordinarily rich. This same rich chute was struck in the sixth level last season, but it is only by the opening of the seventh level, 100 ft. lower, that they were apprized of the extent and continued richness of the chute. The rock or ore, as seen in the vein, we are assured, looks extraordinarily rich, more so than anything before seen in the North Star mine, which certainly has been no niggard in producing rich rock from time to time.

We hear of several new quartz prospecting operations that are showing favorably, and giving hope of good results. One of them is a new shaft that has been sunk some 40 ft. in depth on a vein in the vicinity of the Dromedary lead, the rock from which yielded $40 to the ton. Work upon it is still in progress, and the rock keeps up its good appearance.

EXCELSIOR.—Truckee *Tribune*, Oct. 17th: We learn from Mr. William Wilkins, that the Green Emigrant Co. crushed 93 tons of rock at the California mill and cleaned up in the neighborhood of $3,000. They have about 200 tons more of rock to crush, which bears every indication of being equally as good. The Mohawk Co. are running their mill night and day with splendid effect. Business is improving, and everybody is busy.

Plumas Count.

Quincy *National*, Oct. 8th: Kelly, Mosier & Co., on Hungariau Hill, have finished cleaning up for the season, and we learn that they have made a profitable summer's work.

Oct. 15th: The Taylorville correspondent writes: Most of the quartz mills are busy, but things seem rather dead at the Crescent mills.

Sierra County.

Downieville *Messenger*, Oct. 17th: The Gold Bluff Co. have at last struck the ledge in their mine near this place. We are without particulars further than that the rock is very rich. This company have been working several years running a tunnel, and finally stopped work in that direction thinking they had got far enough to cut the ledge if one existed. They then commenced raising a shaft and at a hight of about 100 feet they found the ledge pitching into the hill, proving that they had not run their tunnel far enough.

Siskiyou County.

The Eureka *Union* says: Mining on the bars of Klamath river is said to be paying good, steady, average wages to a large importation of Chinamen, who have lately commenced operations between the mouth of Humbug and Cottonwood.

The miners on the Klamath, below Cottonwood, Siskiyou County, are beginning to get into their claims. Shaft, Smith & Co. have got down, and for three days work last week took out 28 ozs. The prospect in their claim for a large yield is excellent. The Ellises, who sunk down right at the upper edge of Groat's ranch, have struck good pay, and are taking out an ounce a day to the hand.

ARIZONA.

Prescott *Miner*, Sept. 26th: Linn, Shupp and Brook worked, recently, in Walker's district, 60 tons of refuse rock which yielded somewhere in the neighborhood of $30 to the ton.

Jackson & Co. have started work on a three acre reservoir on Lower Lynx Creek. The last run made by the company paid $14 per diem to the man.

Gray & Co. dispatched a lot of provisions to their mill at Big Bug, the other day. We understand that it is the intention of the company to commence operations at an early day.

Prescott *Miner*, Oct 3d: The tunnel in the Chase mine is now in about 180 ft. The rock taken out of it looks well, and is said to be very rich.

Work is progressing finely at the Sterling mine. The shaft has been timbered, and men are now engaged in taking out ore.

We learn from parties just arrived from Black Cañon Creek, Bradshaw district, that the Black Cañon Placer Mining Co. had their ditch nearly finished when the party left, and that in cutting it, they got the biggest kind of prospects. The ditch is half a mile in length, and has taken some hard work to make it. A good deal of blasting had to be done. When the party left, there were five or six sluiceheads of water in the creek. Flower & Bradshaw examined some quartz mines close to the creek, and found them to be rich. They think a great deal of the Valenciana mine.

The Hardyville correspondent writes: "Mr. Hardy, so says his employés, has struck some very rich rock in his mine."

COLORADO.

Georgetown *Miner*, Oct. 1st: The Flora McLain lode, on Sherman Mountain, is now carrying from six to eight inches of mineral at a depth of 47 feet. The crevice is from 30 to 36 inches in width.

An assay recently made of ore from the Norman lode, gave a result of 70 per cent. of pure lead, and 71 ounces of silver per ton.

The yield from 2¼ cords of ore from the Conqueror lode at Empire, crushed at the Knickerhocker mill, was $568.80, currency, at the rate of $250.80 per cord.

From Empire we learn that business of all kinds is looking up, particularly mining. Disbrow & Haskius have got through the cap on the Conqueror lode, and have a 36-inch iron crevice, which with all the ore in the crevice, they are now running in the Knickerhocker mill and obtaining from $200 to $225 per cord. The parties who are putting up new processes in the Peck Co. mill, are progressing as fast as they can obtain materials, and will be ready to run in a few days.

Hnepeden, Wolters & Co. have shipped to H. Amy & Co., New York, during the past week, on their own account, 651 ozs. of silver bullion, .862 fine, coin value $140.40, Magnet lode, 226 ozs., .813 fine, coin value $242 19,———lode, 32 ounces, 873 fine, coin value $36.14. The total amount taken out is $1145.67 coin value.

We were at Prof. Stewart's works on Tuesday last, and found things moving slowly, owing to imperfections in the machinery. He has ont a nice lot of amalgam, and some retort, besides some lead riches for cupellation. The retort is over 900 fine. His machinery will soon be enclosed by a frame building 28 by 44 ft. We saw some very fine ore there from Capt. Light's mines in Daily Dist. Tests made from it show that it will run about $250 in silver to the ton. Some 15 tons of Cliff ore is now undergoing reduction.

Central City *Register* Oct. 1st: A ton of silver ore per day is being taken from the Gilpin County Tunnel below Black Hawk, which is sold for $300 per ton to Prof. Hill.

Miller & Buffington's mill at Black Hawk has shut down for a few days to put in a new flume for their water power. Hays has shut down the New York mill for a few days, to mend breakages. It is expected that 50 stamps will be running in the Consolidated Gregory Co.'s mill by the 1st of November. Twenty-three stamps are now running on Bobtail ores in the Sterling mill.

The Rising Sun lode, on Quartz Hill, owned by McCasskill, Egan, McNair, & Slatery, is yielding 8 cords of ore per week, which yields from 8 to 11 ounces of gold per cord. They have three shafts, one 98 ft., one 43, and the other 30 ft. deep. They are working 8 men. Copper is very abundant in the ore, often occurring in the form of native copper.

We were shown yesterday a certificate of assay from ores of the Minnesota lode, in Russell district. The sample assayed was said to be an average of a 5-foot vein of ore. The product was $32 and some cents in gold, and $12 and some cents silver, making a total of upwards of $44 in coin, per ton.

On the Circassian lode, near the Four Mile House, there are four shafts. The ore vein in the discovery shaft is about 3 ft. wide, in the second shaft it is about 18 inches, in the third about 14 inches, and about two feet wide in the fourth. There are about 400 tons of rich-looking ore on the surface; none of it has ever been assayed or smelted, so that the exact yield is not known—but it looks as if it might be one of the richest silver ores in the region.

The May lode, just below this, is now idle. A few hits of ore found around the shaft house did not seem to be very rich.

The Blue lode, in the same locality, is also idle. On it are two shafts, one 50 and the other 20 ft. deep, showing a large crevice of very rich ore.

IDAHO.

Owyhee *Avalanche*, Oct. 10th: Happening in at Wells, Fargo & Co's office on Tuesday last, we noticed a brick worth a little over $22,000. It was taken from the Ida Elmore mine, and has since been sent to San Francisco by Thos. Cole, Jr.

Last Wednesday, Peck & Porter struck it rich in their mine, the second South Extension of the Oro Fino. One hundred feet from the surface and 25 ft. north of the main shaft a two feet vein of exceedingly rich gold and silver bearing quartz was found. The ore resembles that of the Golden Chariot and Ida Elmore in character and richness. This will not be wondered at when it is known to be nearly on the same range with those mines. Some large pieces which we examined were completely covered over and diffused throughout with gold.

A rich pocket has been struck in the Oro Fino mine.

Another rich strike has been made in the Flint district.

Walla Walla *Statesman*, Oct. 4th: D. M. Drumheller, through from Kootenai in six days, brings the news of the discovery of new and rich mines on a creek distant 25 miles from the old Kootenai diggings. The discovery had created intense excitement, and miners were deserting their claims and streaming into the new diggings.

The discovery was made in the early part of September by a party of three miners who had been out on a general prospecting tour, and were on their return somewhat discouraged with the result of their expedition. On their way out they had noticed indications of gold on the creek already described, and on their return they thought they would give it another examination, which resulted in the discovery of the best mines that have yet been found in the northern country.

The stream on which the gold was found has been named Perry Creek, in honor of one of the discoverers. The creek has been prospected a distance of 12 miles and found to pay well the entire distance. The three men who made the discovery, panned out in five days $225. They had but two pans, and were without conveniences for working to advantage. They took out as much as $13 to the pan, and in one instance, got $18. The gold is coarse and resembles Kootenai dust, with the exception that the color is a shade lighter. It is estimated to be worth from $18 to $19 to the ounce.

Mr. Drumheller visited the mines in person and satisfied himself that they are both rich and extensive. He has with him some $30 to $40 of the dust which he washed out himself. The Gold Commissioner has visited the mines and laid over the claims until the 1st of June.

MONTANA.

Helena *Post*, Oct. 9th: J. C. Ricker cleaned up in his IXL 24-stamp mill, day before yesterday, $6,976.26 in gold, equal to $10,000 in currency. This rock was from the IXL works, on the famous Whitlach-Union lead, and is only a specimen of what Mr. Ricker is doing from week to week.

Miners have been working in Ram's-horn gulch, 17 miles from Virginia City, from the day on which Alder was discovered in 1863. Hitherto their efforts have been unsuccessful. Last year, fair prospects were found near the saw-mill of Holter Bros. During the past season, several parties have been laboring on flumes. Mr. Tierman has finally struck a fine bed of gravel several feet below what has generally been considered the bed-rock. The gulch is nine miles in length, and heads in the same range of

mountains with Biven's, which has already yielded its millions. For the last two days there has been a stampede from the capital.

The Plymouth Mining Co. is about to erect a fine quartz mill on the War Eagle lode, in Greenhorn gulch. This mill, which is provided with 10 stamps, and is adapted to 20, is now on its way from Benton, and will be up and ready to commence running in two or three months. The mine upon which it is to be erected is considered one of the best in the country, is of good width, shows splendid quartz, and prospects at the rate of from 10 to 25 cents to the pan of dirt.

The ground in Confederate gulch, below Diamond City, bids fair to very nearly equal in richness that above the town. In the claim below the head of King & Gillett's flume, a prospect of $2.63 to a pan of dirt has been obtained, and the smallest sum taken from the bed-rock is 20 cents to the pan.

The Summit correspondent writes: The Postlewait and John How quartz mills are both running. The former is crushing rock from the Keystone ledge, which yields about $30 per ton. Work will be prosecuted on this mine during the entire winter. The John How mill is running on the Steel & Messler ledge, but soon expects to commence crushing rock from the Kearsarge, a mine which never looked better than at present. The damage done to the bed-rock flumes in the vicinity of Summit by the recent cloud burst, has been repaired, and claim owners are at work cleaning up their thousands of dollars every day, as if nothing had happened.

The Virginia *Democrat* says: The Stephens' mill is in full operation, crushing ore from the Iron Rod mt Silver City....J. T. Connor has received the machinery for a first-class mill to be erected in Brown's gulch....Deriar & Co., who have erected a smelting furnace above Bannack, are about to commence operations....Mining at Horse Prarie has been discontinued for the season ....The St. Joseph Mining Co. have completed their furnace at Argenta.

Deer Lodge *Independent*, Sept. 30th: Within a few weeks, Chas. Deidrich has taken two large nuggets from his claim in Silver Bow creek. The first was worth $500, and the second weighed 85 oz., 1 dwt., 3 grs....A new bar has been discovered in Washington gulch, from which prospects of $1.50 to the pan have been obtained.... A new quartz ledge, three feet wide, and prospecting $3 to the pan, has been discovered about 6 miles from Red Mountain City....Wm. Roo's claim, on Wallace's bar, proves rich. It has, on some days, paid $500.

NEVADA.

Humboldt.

Winnemucca *Argent*, Oct. 15th: Lay & Miller have a fine ledge, located about 20 miles up the river on the north side. A specimen of the ore was left on our table by O. C. Miller of San Francisco. He has just shipped 166 pounds to the Bay for analyzation. The sample before us is fully 75 per cent. metal. Looks as if it contained silver. If tests are satisfactory, active mining operations will be commenced. Ore will be shipped to Sacramento from that point at not above $20 per ton.

S. E. Morgan, an old Swansea smelter, is in town working up a project to erect desulphurizing furnaces to treat ore from Winnemucca mountain mines. He favors Reese's Roasting Stalls, an invention tried with great success in Baltimore, Maryland. One hundred tons of copper ore are there desulphurized by Reese with one cord of wood. Mr. Morgan's purpose is to reduce the weight one-half by desulphurization, and then ship to the Truckee for the extraction of the precious metals.

T. G. Negus shipped 87 pounds of Golconda bullion yesterday, worth about $12 per pound.

Reese River.

Austin *Reveille*, Oct. 10th: We learned this morning that the Buckeye mine, in Summit cañon, was producing good ore, a large lot of which will be brought into this city for reduction this fall. The mine has been explored to a considerable extent, in the course of which large bodies of valuable ore have been developed. It is under the intelligent management of Major Cleudon. The Buckeye is one of the peculiar mines of the Twin River region, and has attained celebrity for its large bunches of excellent ore as well as for the unique and beautiful specimens it has produced. Nearly all of the ore which has been sent to mill has yielded a large rate of silver per ton, and the lot which was extracted recently is said to be fully equal to former lots.

During the week ending this date there were produced at the Manhattan mill 30,015 ounces of bullion.

Oct. 12th: We saw this morning at the assay office of David Lundbom, 15 bars of bullion which were brought into this city on Saturday afternoon from the Monte Cristo mill in the district of White Pine. The bullion averaged .977 fine, and was valued at $20,094 50. It was produced from Hidden Treasure and Eberhardt and Keystone ores.

Oct. 13th: Work is about to be resumed on the Silver Champion ledge at Belmont.

Oct. 14th: Four bars of bullion, weighing 3,887 ounces, were brought into this city to-day from the Old Dominion mill at Hot creek.

This morning 23 bars of bullion, averaging .945 fine, and valued at $31,263 89, were brought into this city consigned to W. S. Gage & Co. The bullion is the product mainly of ore from the Eberhardt mine in the district of White Pine, and was produced at the Centenary mill in the district of Newark.

Virginia *Enterprise*, Oct. 16th: Judge Pitzer, who has for some time been out in White Pine, returned to this city day before yesterday. He says the mines of that region are the richest he has ever seen—ten times as rich as was the Comstock lead in its best days. His idea of the deposit in that district is that it resembles a bed of coal, as, for the distance of a mile in length, by over half a mile in width, no shaft has been sunk but has penetrated the rich ore. Toward the top of the hill upon which the mines are situated, the cap of limestone overlying the ore is quite thin, but, in descending, shafts must be sunk to a much greater depth to reach the ore deposit. The depth of the deposit is unknown. The ore rapidly increases in richness in sinking into the vein, and in the deepest shaft it is so rich and tough that it is very hard to sink in it. A pick leaves a hole in the ore such as would be left in a mass of lead by a blow with the same tool. There can hardly be found in the lead any kind of ore that is worth less than $500 per ton; in fact the whole deposit is "fearfully and wonderfully" rich.

Virginia *Safeguard*, Oct. 16th: Geo. W. L'Amereoux and Wash. Green returned to this city yesterday, having been absent nearly four months on a prospecting trip through the southeastern portion of the State. About 150 miles east of Virginia they discovered some fine ledges, which they located, and for a time worked them with arastras, but owing to there being no feed for horses in that section, they were compelled to quit work. The rock is rich, free gold can be seen sprinkled all through it, and every indication looks favorable for another White Pine District. Shortly after making the location they organized what is now called the Black Mountain Mining District. It is the intention of Green and L'Amereoux to make arrangements for a small mill, which they intend erecting near the mines. They brought 100 pounds of rock with them, which they intend having worked here.

Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district

Virginia *Enterprise*, Oct. 13th: The Savage mine is looking exceedingly well and stockholders may rely upon regular dividends for at least one year to come; indeed, the chances are that the company will pay dividends of from $20 to $15 per share before three months have passed. The mine looks as well throughout as any stockholder could wish. The north winze in the fifth level is now down 33 feet and is fast developing a new—entirely new—body of very good milling ore; the winze in the south mine, 70 feet below the fifth level, has already developed some very rich ore in an east drift from it, and will in a few days find the ore body descending from the fifth level to the sixth level. It (the winze) was sunk 30 feet west of the ore.

The body of ore struck in the 810-foot level of the Yellow Jacket mine is proving exceedingly rich. From this deposit a single chunk was yesterday taken that weighs 160 pounds. This chunk throughout is rich enough for a cabinet specimen, as it assays at the rate of $3,000 per ton (principally silver), and is sprinkled over the spangles of native gold. The extent of this new and immensely rich body of ore has not as yet been ascertained.

On Saturday last Vicompte de Suarez D'anlan, "Attache a la Legation de France" at Washington City, and Professor L. Simouin, Engineer of Mines, from Paris, France, visited our city. These gentlemen have visited the principal mines in Colorado and those of Austin, in this State, and after having examined our mines will proceed to California and visit the most noted mines of that State. Prof. Simonin was much pleased with the hoisting works of the Savage Co. He said that in all his travels among the mines of Europe, he had seen nothing so fine. He was much astonished at seeing everything about the works so neatly finished, painted and kept. He found about the works many things new to him—the arrangement of the cages, the safety apparatus, the dials showing the amount "paid out" by the reels, the plan of working the signal bells by means of electricity and telegraph wires, etc. The Professor is confident that all our intractable ores may be easily and cheaply worked by the same processes that are in use in Europe for the reduction of similar ores. He was sent by the French Government to examine the mines and mining and milling works of the United States, and will be able to give a report flattering to the skill of our mining engineers. He considers the mines of the Comstock, with their fine and costly works, the greatest in the whole world. He is taking many specimens of all kinds of ores from our principal mines, but appears most interested in those containing a large per cent. of base metals, and which here are considered intractable.

NEW MEXICO.

The Santa Fe *Gazette* has seen the certificate of assay of a piece of rock, from the Aztec lode, near Maxwell's house, in that Territory, and says that it is the biggest thing in the assay line they have seen or heard of in a long time. Here it is: Gold, $19,455.37; silver, $189.88. Total, gold and silver per ton, $19,645.25!

OREGON.

Portland *Oregonian*, Oct. 10th: By a party just returned from Willow Creek mining camp, we learn that there is no doubt of rich diggings existing in that region of country. They expect by another year to have plenty of water to work the mines when they will be thoroughly prospected.

UTAH.

Salt Lake *Reporter*, Sept. 28th: W. P. Clark came into our office this morning, with a rich specimen from the mines in Bingham. It is a beautiful bit of the natural ore, about the size of a hickory nut. Mr. Clark thinks Bingham will astonish the world with its richness.

Mountains Laboring.—Strange phenomena are reported in the Sierra Nevada Mountains, at the head of Kern river. The earth is said to have been shaking for more than two weeks—almost a constant shake, rolling rocks down the mountain, and the earth waving like the sea. It is supposed that it is a volcano getting ready to burst out. The mountain is supposed to open like a hinge, hence it is not felt at a great distance off. The atmosphere has been very thick there for a week.

An Inyo correspondent of the *Union* says: Yesterday another fishing party returned from Kern river. They report that the country there continues very smoky, and also that they saw, one day when the wind had thinned the smoke considerably, a large column of dease smoke rising from the mountains in the direction of Walker's Pass. About twenty times a day they would hear a loud noise like distant thunder, followed immediately by a jarring of the ground, not like an earthquake, but more resembling the sensation felt while firing heavy artillery. Only five or six earthquakes were felt while the party remained there.

North New Zealand Gold Fields.—A private letter from the Thomas District, 50 miles from Auckland, says:

A friend of mine crushed two tons of quartz, and the yield was 1,200 ounces of gold. It is considered a poor claim that will not yield two ounces to the ton. The ground here has been opened ten months, but we have had no emigration as yet from the colonies. They seem to think it a boax, and I hope they will keep of the same opinion. The charges for crushing are at present thirty shillings per ton, and it would pay well for some of your enterprising merchants to export good quartz machinery to this country. Coals can be bought on the ground at thirty shillings per ton; the gold field lies within two hundred feet of the landing, and roads are cut through all the gullies by the miners.

Another cable is proposed and the company is forming in Berlin. One of the arrangements is that the subscribers will receive bonds, which they may use in paying for the transmission of messages after the line is in working order.

Blockaded.—The rush to the White Pine mines, with the unusual travel overland to the Atlantic States, has blockaded the Overland coaches beyond Wadsworth.

To Inventors on the Pacific Coast.

Messrs. DEWEY & CO.

Take occasion to call your attention to the following rules, regulations and suggestions relative to the obtaining of LETTERS PATENT of the United States:

Advantages to Patrons of Our Agency.

Some of the advantages to be obtained by patronizing us may be enumerated as follows:

1. Inventors on this coast having their applications for patents made out through our agency, can sign their papers at once, and thus secure their rights at least *three months sooner* than by trusting the same to distant agencies, situated at New York or Washington.

2. As many of the inventions conceived here are especially adapted to the Pacific coast, they should be properly brought out here, which can be accomplished (if the invention is a meritorious one) by illustrating the subject, with a careful description, in the columns of the Mining and Scientific Press, *free of charge*; the inventor paying simply for the engraving, which will be executed at a moderate charge. The same cuts can be subsequently used for books, letters or circulars. In a word, we are determined to make it of decided interest for every inventor on this coast to patronize home talent and enterprise.

3. Most inventions on this coast are for objects and purposes but little understood by parties at Washington or other parts of the East. Our mining machinery, processes and operations are best understood by those familiar with their use; and a personal verbal explanation is oftentimes of important service, and enables us to be more successful than agents generally.

4. Remittances of money made by individual inventors to the Government sometimes miscarry, and it has frequently happened that applicants have not only lost their money, but their inventions also, from this cause and consequent delay. We hold ourselves responsible for all fees entrusted to our agency. By sending duplicate correspondence to our Washington agent we avoid hazardous delays.

Saving of Time.

In urgent cases for an immediate patent, persons can deposit the amount of the last fees with us, in San Francisco, and have our Washington agent procure the *issue* of the papers as soon as granted, saving the two or three months time which would otherwise be required for the inventor to receive notice and then forward the money. Money advances for this purpose will be returned, should the application be rejected. By adopting this course, we are enabled, with our other advantages, to secure the *receipt* of patent papers to inventors on this Coast, at least four or five months sooner than can be done through agents in the East, without the applicant going to the hazardous expense of sending on the last fee before it is known whether the patent will be granted.

Foreign Patents.

In addition to American patents we secure, with the assistance of co-operative agents, claims in all foreign countries which grant patents, including Great Britain, France, Belgium, the Netherlands, Prussia, Austria, Russia, Spain, British India, Saxony, Hanover, Sardinia, Norway, Sweden, Australia, Mexico, Victoria, V. I.

Many valuable and important inventions of Americans are being yearly surreptitously patented in foreign countries, some of which governments allow it, thus debarring those who have valuable inventions from their rights.

Patents obtained in England, France and Belgium will secure the rights of an inventor among many millions of the most enlightened people on the globe; it is therefore very important, if the invention is valuable, to secure foreign patents.

Our schedule prices for obtaining foreign patents, in all cases, will be as low, or lower, than those of any other agency.

Patent Rejections.

First. Refusals are always made by the Patent Office if there is any informality in the specification, or if it does not contain the entire subject matter of the invention, and is not properly arranged and stamped. A slight omission often proves fatal.

Second. If the drawings are defective, and are not executed in an artistic manner in India ink, and on sheets of the required size, they are subject to rejection.

Third. Applications are always rejected where the claims conflict with others already patented.

If the rejection should be an unjust one—which sometimes happens—it can generally be reversed, and the patent obtained by contesting the case.

For the prosecution of such cases, obtaining references, making arguments, and personally attending to explain the case (through our agent in Washington), *we charge no second fee*, as is the case with some agencies, but attend to the business till finally allowed or twice rejected, without extra charge beyond the Government fee.

Inventors who have rejected cases, prepared either by themselves, or for them by other agents, and desire to ascertain their prospects of success by further efforts, are invited to avail themselves of our unsurpassed facilities in securing favorable results. We have been successful in securing Letters Patent in many such cases. Our terms are very moderate.

MINING AND SCIENTIFIC PRESS.

W. B. EWER,.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

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Our Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1868.

Dr. L. G. Yates is our duly authorized traveling agent. July 6, 1867.

Mr. A. B. Butler is a duly authorized traveling agent and correspondent for this paper. July 15, 1867.

Resident Agents.

CENTRAL CITY, C. T.—Messrs. Richards & Crane, of the City Book Store, Main street, will act as our agents.

GEORGETOWN, C. T.—John A. Lafferty, Postmaster, is our agent in this place.

DENVER CITY, C. T.—Messrs. Woolworth & Moffat, are our agents for this place.

CHEYENNE, D. T.—Mr. Robert Beers is our authorized agent for this place.

OMAHA, N. T.—Messrs. Barkalow & Brothers, are our agents for this place.

San Francisco:

Saturday Morning, Oct. 24, 1868.

Notices to Correspondents.

PROSPECTOR, Plumas County.—We are only enabled to give you a somewhat indefinite account of newly discovered gold fields in China, for there has been more than one; in the first place a French exploring party discovered some gold bearing rocks in the southwest provinces of that empire, bordering on Thibet. Such a circumstance was sometime previously indicated on theoretical grounds in the columns of the MINING PRESS, by our fellow citizen, Prof. Rowlandson. The value of these, however, is as yet unknown to the general world. The discovery of gold mines in the province of Shantung,—as yet supposed to be placer mines only,—is the one, however, to which you allude, as these have caused considerable excitement amongst the Chinese population generally, but as will be gathered from a quotation which will follow, is likely to stimulate the torpid motions of the Chinese Government: "But in addition to the above, the government of Pekin is likely to be rudely aroused by the discovery of gold in Shantung, and by the advent of fillibustering miners from California and Australia. Should gold prove abundant here, nothing can prevent a hive of adventurers coming, and what the Pekin Government refuses to do, what our diplomatists are afraid to demand, promises to be brought about by accident." The extract given is from a letter forwarded to this office from a gentleman whose name at least is well known to a large number of our readers.

BRETON, French Corral.—M. Buret, on observations chiefly made by M. Elie de Beaumont and M. Dufrenoy, has described the peninsula of Brittanny (France) comprehending in a geological view the Boccage of Normandy, La Vendee, and a part of the departments of the Sarthe, and others. When these observations were made, geologists were accustomed to employ somewhat indefinitely the term graywacke, and paleontological in place of lithological evidence was only beginning to obtain that importance which has since been accorded to it. At the time alluded to the rocks comprised in the district under notice were denominated upper and lower transion, the series comprising sandstones, conglomerates, granular and compact quartz rock, limestone, granwacke and slates, the two last in the lower series passing into mica slate and gneiss penetrated by granite. The upper series are more or less carbonaceous; anthracite beds being found in many places, in some sufficiently abundant to be economically worked, as at St. George, Chatelmaison, Montrelaise. The upper transition series belongs to what is now generally termed the upper Devonian system.

CYCLOPS, El Dorado County, wishes to draw the attention of capitalists from the successful example of the Oregon Iron Works, recently noticed in this journal, to this field of profitable enterprise in this State, stating that not only does El Dorado contain some fine openings for such, but Mariposa, Sierra and other counties, also, are rich with the best of iron ores.

CONTINENTAL Life Insurance Company, 302 Montgomery street, corner of Pine.

Wednesday's Earthquake.

To commence talking about an earthquake like that of Wednesday, is to open up a field so broad, that the natural impulse is to slight it. We know nothing about earthquakes—except that they are like a universal railroad smash-up. Once launched upon a narration, or a theoretical discussion about earthquakes, and the listener will have to look to it or he will get the worst of it. Not that the facts are not exciting, or that the philosophy is not interesting—it is even extremely fascinating—but there is so little that has not been experienced, or that has not been said before, and so much that can be said which is to no purpose.

As to the facts, they can be condensed into a few paragraphs. Time, 8 A. M., Oct. 22; direction, variously apprehended, but pretty positively either from southeast to northwest, or the reverse, buildings having been generally thrown toward the southeast; motion of the surface during the severest shocks, more horizontal than vertical, but in some of the subsequent tremblings almost perfectly vertical; size and hight of the earthquake waves, and direction and degree of the force relative to the earth's center unknown, from want of proper instruments to record the same, and comparison of observations in different localities; duration of principal shock about 45 seconds; weather dead calm and foggy in town, at Point Lobos a light breeze from the northwest, and hazy, as it had been more or less for weeks; thermometer and barometer about as usual. In the evening the atmosphere became beautifully clear and invigorating. The reported focus of severity and damage was, according to many observers, not far from Hayward's, in Alameda County; it is safe to say that it was within a radius of 16 miles from that place. As to the degree of damage done to property, it can be understood only by taking a walk through town, and observing the houses, walls, cornices and copings that have been thrown down; probably not over a dozen buildings were utterly destroyed, but hundreds were left with marked evidences of injury. Lives lost, so far as reported at the Coroner's office, six; wounded or hurt, about four dozen. Whether the rumbling sound accompanying the earthquake proceeded from the interior of the earth, or from the motion of loose bodies on the surface, was not apparent, but was settled both ways, by guess.

If mosquitoes and other evils have their purposes—the school-boy's puzzle—earthquakes may be designed for some good end as well. They furnish us at least with a motive and the means to ascertain the nature of the interior of the earth, and may enable us to develop, in good time, a new branch of geology, and of cosmial astronomy. The data are presented to us from time to time in the most unpleasantly personal and direct manner. Some day not far hence we may rest assured that we shall know a good deal more of their philosophy than we do now, for it is not many years since that Werner and von Buch developed the first principles of Geology, and before whose time we were as ignorant of the signification of the rocks that we stood upon as we now are of the interior,—which is accessible to us not merely through the phenomena of earthquakes, volcanoes, and terrestrial magnetism, but is subject to all of the general laws of physics and chemistry; or perhaps we should say the innate union of those branches, where they pass over into each other and are governed by common and more general laws—a field where the most advanced observers and thinkers are yet at fault. That we are very ignorant on the subject, is certainly not a good reason why we must continue to be so forever; and if we are to deduce anything from the triumphs of human thought and life, as presented to us in history, it is rather that man was born to be a demigod, to control and direct nature's laws and forces everywhere relating to his sphere, than that he should be baulked by insurmountable walls of forced ignorance, where he is forbidden to exercise his most natural trait of unlimited inquisitiveness and unlimited ambition.

Should we ask ourselves what do we know about the interior of the earth, the answer would not be entirely barren. We may arrive at even a few points of certainty concerning earthquakes. We know, for example, that the earth is not round, but a spheroid; and that nothing could have made it a spheroid but revolution on its own axis while in a plastic state—or turning it on a lathe. Having been soft, it was either a wet or dry plasticity—either a ball of cold mud, as superannuated old Prof. Schafhaeutl of Munich says it was, or of heated plastic rock. Facts deciding that question pretty conclusively are, that the earth is proven to be hot in the interior now, by undoubted regular increase of temperature in mining, below twenty-three feet of depth, and by the emissions of melted or eruptive rock from volcanoes and cracks, (volcanic dikes) existing, or having existed, in every country, all over the globe; furthermore, by the circumstance that active volcanoes are arranged along systems of great lines encompassing a hemisphere or the globe itself, as the line of the Andes, Rocky Mountains, Alaska, and Japan. Could any one desire facts more conclusive, to prove the existence of anything that he cannot see?

Earthquakes are known to be intimately connected with actual eruptions of melted rock; and the great volcanic lines, as well as the regions of earthquakes, are observed to be everywhere near the sea. All the philosophers agree that heat, operating in one way or another, causes the earthquakes; but some will have it that it is by suddenly making and condensing steam; others that it is by causing specifically light gases or fluids, which undoubtedly exist in the interior without being dependent upon the agency of water, working up towards the open volcanic vents, as molasses when fermenting, will work out of a bung-hole, or burst the barrel; others, that great masses in the interior, from long continued chemical reaction, will occasionally change their relative center of gravity, in doing which the crust would be more or less disturbed; and still others, like Dana, hold that the gradual cooling of the globe, which is established by the changed character of present from fossil animal life and other data, in causing the wrinkling of the crust like that of the skin of an apple, has put into operation a constant lateral pressure, by which rocks are disposed to shove each other up into hills and mountains, and that many of the lighter kind of earthquakes are caused by strata consequently slipping by each other along a fissure, as we see so frequently has been done in the faults as found in mineral veins.

Anybody is at liberty to select one or all of these causes, as the ones most satisfactory to him. Possibly all of them are actually existing causes of earthquakes.

We feel earthquake shocks in waves,—vertical, horizontal or contorted. Readers of the PRESS will remember a series of articles published just after the earthquake of 1865, on the physics of vibratory waves traveling through water, iron or rock, which amply explained every feature of ordinary earthquake phenomena, and need therefore only to be referred to in this connection. Being the result of internal concussion or jarring, the earthquake wavelets must travel like the enlarging circles seen where a stone is dropped into the water, modified of course in their behavior by the circumstance of origiuating either from a point, or from a crack, or line of disturbance.

A REAL ESTATE PAPER is about to be started in this city by Turnbull & Smith, printers.

A New Textile Material.

On the Santa Clara plains, and almost anywhere else around the bay, or in the State on low valley land, there grows profusely a plant whose name and appearance are well known to everybody, but especially to roving children, who recognize in it one of their most familiar botanical acquaintances, and designate it, after its fruit, by the common name of *Cheeses*. This is the *Malva Rotundifolia*, or Mallow, in dignified English. Amongst the myriad of commonplace objects to which our eyes are daily accustomed, how often is it that a little more information as to their qualities and capabilities, or even some slight stimulation or suggestion to cause us to inquire into such matters, might open to us undreamt of resources? The door-yard mallow furnishes a textile material, in this State, apparently equal to hemp. Its growth is so much more luxuriant and tall than at the East, and its distribution so general, that inexhaustible quantities of it, easily reaped, are at this moment standing ready to be harvested with the mowing machine. All that was wanting was the little trifle of knowledge which "is power."

W. Frank Stewart, of San Jose, whilom of Nicaragua, has placed on our table some specimens of this plant and a quantity of the hempen material derived therefrom in the same manner that hempen threads are separated from their stalk, which it resembles in size and appearance; and the following is the story of the discovery of this useful property of the mallow.

A German who is living modestly, as Germans do, in a little house and garden outside of San José, considered himself sorely pestered by the dense growth of these stalks in his garden, and began bestowing his special energy and ill-will upon the same, at leisure times, by cutting them off, and throwing them upon heaps or over the fence. But he had not conquered all of them when, one day, in moving a partially rotted heap, he broke one of the stalks in his hands in such a manner as to cut his finger. He discovered the sharp, strong thread that did it—and at the same time the quality and quantity of the textile material which is found under the bark. Not fully realizing the industrial importance of this discovery, he showed his bleeding finger and the cause thereof to somebody else; and the result is that a patent has been applied for through the MINING AND SCIENTIFIC PRESS Patent Agency for the use of the Malva Rotundifolia as a textile material; its product being adapted to the manufacture of hagging, of which there is consumed annually in this State the value of $1,200,000 for the grain crop alone, the foreign bagging being subject to a duty of 30 per cent *ad valorem*.

OBITUARY.—William Kellogg Strong, an estimable young man, native of Portland, Ct., who was in the office of the MINING AND SCIENTIFIC PRESS at the time of the late severe earthquake shock, and who unfortunately lost his life in trying to escape by being buried under the ruins of the adjoining building, was interred yesterday at the Masonic Cemetry; funeral services having previously been held by Rev. H. A. Sawtelle, at the Union Square Baptist Church, attended by a number of his acquaintances from this office. He was aged 27, and had been in California but a few months.

PRESIDENT OF THE STATE UNIVERSITY.—It is reported, and assumed by the Oakland *Transcript* to be correct, that a majority of the Board of Regents of the State University are in favor of appointing George B. McClellan as President of that institution. The story surely cannot be anything else than a slander.

B. P. SPECTACLES.—The genuine Brazillian pebble can be had at C. Muller's, 205 Russ block. *

The Railroad and Wagon Roads to Idaho.

Winnemucca is now the depot of the Idaho trade. This town, of 2,000 inhabitants, with a good and sufficiently peculiar sounding name to begin favorably upon its historical career, being appropriately named after Winnemuck Peak and the frowning war chief of the Pi-Utes, is located nearly half way across the State of Nevada—not quite so far as Austin—and at the most northerly point of the road on Humboldt river where it forms its great bend; and is in such a position as will, in all probability, secure to it permanently the Idaho trade and all its northern communications. Our attention has been favorably drawn to this section by a visit from Mr. Joseph Wasson, editor of the Winnemucca *Argent*, a paper which, from its auspicious location, is destined to be frequently heard from. The railroad is completed and opened sixty miles beyond Winnemucca, and by Oct. 24th it will be completed to Reese River station, opposite Austin, to which point a stage road is just completed; so that during the coming week Wells, Fargo & Co's communications will be made by that route, the company having already partially hauled off its stock and material from the old road.

Towards Idaho there are two routes from the railroad, that from Winnemucca to Boise, which is a good, natural, and completed road; and the route from Maggie Creek, via the south fork of Owyhee Creek, which is a little nearer for the wagoning, but less direct on the whole, and is said to cross at least one considerable range of mountains; the road being now in progress of construction. One advantage in favor of the latter place as a center will be its communication with natural routes leading southward.

Many improvements are being made at the railroad depot in Winnemucca. The company have a freight-house nearly finished, 32x100 with 12-foot platforms on each side, over which the roof extends. Rankia Thompson is putting up a building 16x40 feet, and Sisson, Egbert & Co. have their new store well nigh completed, etc.

What Causes the Smoke?—The Great Spirit of the Coast Mountains is still ruminating. Why should he be burning so much of his brown barked killikinnick in these days? Capt. Johnson of the schooner Mary Reed, from Coose Bay, Oregon, reports that while off the coast near that place he encountered smoke so dense as to be almost suffocating, which seriously obstructed his progress; and that in one day 300 birds fell dead on the deck. They must have been found implicated in some foul plot, or some illegal and rebellious confabulation that incurred the Great Smoker's dreadful displeasure;—and this is the lesson, which will be long remembered, and told over, with wise reflections no doubt, in the communities that flock together on lone and wave-worn rocks. But what it all signifies, of course *we* dare not venture to say. Were we to ask of those privileged individuals who pretend to know, we should be informed, probably, that something is "about to happen." We suspect, however, that the Great Spirit simply has something on his mind—some weighty and unusual question. Can it be that the mighty changes which are threatened by the early completion of the Pacific Railroad, have anything to do with it? Railroads are pushing up, or beginning to look up, every green valley on our shores and in the interior, that promises to furnish peaceful and happy homes for the emigrating families of our cosmopolitan race. The road-builders and the farmers,—the men who look through levelling instruments, and those who go out with guns and return with ideas of speculation in lands,—are a rude, encroaching set. Great events, and great changes of empire are being enacted, as everybody can see, without being told. Is it not matter enough for a few extra whifs?

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The latest prices of stocks are quoted; also the produce and market rates, metal market and prices of copper ores.

"Answers to Correspondents" afford much of interest to readers and of advantage to the community.

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☞ All advertisements inserted in the Press are contained ☜ in the Monthly Series of the Mining and Scientific ☞ Press, which (by special arrangement) are placed for ☜ free reading in the principal hotels, steamboat and ☞ steamship saloons, depots, and public libraries in San ☜ Francisco, and the Pacific States. Many volumes are ☞ also bound, thus affording permanent advertising.

DEWEY & CO.

Treatment of Ores by Electricity.—In a corner of the Union Foundry, Mr. Pioche and a French chemist, Mr. L. Nolf, have for some time had a laboratory specially fitted up, and been making experiments for the separation of gold and silver from their ores by means of electricity. An article claiming the success of the process, but giving no further information as to the *modus operandi*, or the principles taken advantage of, appeared in the French *Courrier de San Francisco* a few days ago, over the signature of Pierre Cauwet, the editor of *Journal de Lundi*, and the results of the reduction of two tons of ore are promised to be given to the public shortly. Booth & Co. are engaged in manufacturing the necessary apparatus for the operations of the process; which, as we understand it, is intended to reduce the gold and silver to a metallic state, in order to amalgamate the more freely and thoroughly. Readers of the Mining and Scientific Press will remember of attempts that were made in 1863 and afterwards, by Messrs. Scott, Veatch, Kean and others, to benefit by the disiategratiag powers of electricity, using various modifications of the Becquerel process, which was first tried at Grenelle, near Paris; and a review by Dr. Lanszweert, of what had been attempted prior to November, 1865, will be found on p. 306, vol. XI., of the Mining and Scientific Press.

Paying.—The Omnibus Railroad Company have declared a dividend of ½ per cent. for the month of September, amounting to $5,000.

The Pacific Tannery and Boot and Shoe Company have declared a dividend of 1¼ per cent.

Sulphurets and rich Rebellious Ores are wanted in this city, by ROBT. TAYLOR & CO. See advertisement in another column. 17v17tf

Notice.—Persons interested in locating Mineral Lands in California or Nevada, will do well to observe the advertisement of N. Wescoatt, S. & M. E., in another column.

Co-Operative Union Store.—This is becoming one of the most useful institutions in the city, and the Mechanic and Laboring Man fully appreciate it. They are now enabled to buy their Groceries and Provisions 20 per cent. cheaper than ever before, and the very best articles in the market. The store is located at 115 Sutter street, Lick House Block, San Francisco. 6v16-aim

Wanted—By a Civil Engineer of twelve years experience in Railroad, Water Works, Mines, etc., any professional or other work; is willing to take a reasonable salary, and would invest half of it in any promising stock or enterprise. Holds best Eastern and California references.

Address, W. STEWART.
17v17-1t San Francisco.

Save Your Teeth.—Drs. Jessup & Beers, over Tucker's Jewelry store, are now making a specialty of filling the fangs of dead Teeth, and building up broken crowns with *pure gold*—thus restoring them to their original usefulness and beauty. They are also using Nitrous Oxide for the painless extraction of Teeth, when so desired—the only absolutely safe anæsthetic ever discovered. In breathing it, it acts as a gentle stimulant, without undue excitement,—the sensation produced being truly delightful, the effect upon the lungs healthful, and in its results positively free from all danger. Prepared and administered daily at the dental Rooms of Messrs. JESSUP & BEERS, corner Montgomery and Sutter streets, San Francisco. 16v16tf

I T
will heal
old sores, piles,
ulcers, cancers,
saltrheum, and break-
ing out on any part of the
body, and also removes pain
of every name or nature instantly. It is a harmless liquid, and leaves
no smart or stain, and is called Moore's
Pain Paint For catarrh and colds in the
head, Moore's catarrh remedy affords a safe,
sure and speedy cure. Both remedies sold
by druggists everywhere, and at Moore's
office, 539 California street, northeast
corner of Kearny, where all pain
is instantly removed, free
of cost, as hundreds can
now testify from ac-
tual tests.
8v17-3m

Manufacturing Rooms to Rent.

We have a large, light room, 40x44 feet, in second story, at 414 Clay street, for rent low; also room adjoining, 22x42 feet. DEWEY & CO.,
Publishers and Patent Agents.

Builders' Insurance Company—OFFICE IN THE BUILDING OF THE CALIFORNIA SAVINGS BANK, California street, one door from Sansome street.
☞ FIRE AND MARINE INSURANCE. 10v14t9pqr

Support Home Manufactures.

California Pioneer Fuse

MANUFACTURING COMPANY,

MANUFACTURERS OF

SAFETY FUSE,

A New and Superior Article for Blasting in very wet ground, or under water.

Great difficulty has heretofore been experienced by miners, and others in the use of Fuse, which has been subjected to deterioration from exposure to dampness during transportation, or during the great length of time which has passed between its manufacture and use. In addition to great painstaking in the manufacture of the California-made Fuse, the above and many similar objections are entirely obviated, and the operator can always depend with certainty upon the burning of his fuse.

It is often the case that extra lengths are required, as exploding tunnels, etc., longer than is furnished in the imported article. Fuse of every desired length or size can be made to especial order, at the above manufactory.

Manufactory, - - - - Potrero, San Francisco.
JOS. POWNING, Sec'y. JAS. EVA, Supt.
17v16-9ptf

PACIFIC

Rolling Mill and Forge Co.,

SAN FRANCISCO, CAL.

Established for the Manufacture of

RAILROAD AND OTHER IRON

—AND—

Every Variety of Shafting,

Embracing ALL SIZES of

Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames

—ALSO—

HAMMERED IRON

Of every description and size.

☞ Orders addressed to PACIFIC ROLLING MILL and FORGE CO., Post Office, San Francisco, Cal., will receive prompt attention.
☞ The highest price paid for Scrap Iron. 9v14-3m9p

IMPORTANT TO LUMBERMEN.

ANDERSON'S
Patent Mulay Saw Hangings.

These Mulays will cut FIFTY PER CENT. MORE LUMBER PER DAY than any other Mulay in use, with fifty per cent. less power. They are very durable, and easily kept in order, and warranted to give satisfaction. No Mulay Mill should be without them, as they will pay for themselves in a very short time. No other mode of manufacturing Lumber can compete with the Mulay Saw with this improvement. Send for circular.

FULLER & CO.,
Manufacturer's Agent for the Pacific Coast,
109 MONTGOMERY STREET, SAN FRANCISCO.
17v17-3m

IMPORTANT TO WOOD WORKERS.

GECER'S COMBINATION
PATENT
Variety Molding and Planing
MACHINE.

This standard machine is indispensable in any establishment working Wood by machinery. Recent great improvements render it complete for

All kinds of Irregular and Straight Work

in hard or soft wood, Straight, Waved, Circular and Elliptical Moldings, Spiral Work, and all Irregular Forms, thus saving to the mechanic the cost of several machines to effect the purposes accomplished by this alone. It does not stop at cutting the edges and sides of timber, but operates equally well upon the ends, cutting them into any required form with the same facility that it does the sides. Any shop without it lacks one of the most USEFUL AND PROFITABLE TOOLS now used. It is worthy of the attention of all HOUSE, CARRIAGE, SHIP, BOAT and CAR BUILDERS, FURNITURE and CABINET MAKERS, MILL PROPRIETORS, PATTERN MAKERS, etc., and of all others who desire to make a profitable business from a small investment. Every machine is thoroughly tested at the manufactory and warranted. Further information furnished on application.

FULLER & CO.,
Manufacturers' Agents for the Pacific Coast,
109 MONTGOMERY ST., SAN FRANCISCO.
17v17-3m

H. F. FITZGERALD, GEO. DAVIS MOSS.
Incorporated, 1848. Cash Assets, $4,000,000.00.

FITZGERALD & MOSS,

General Managers for Pacific Coast

UNION MUTUAL
Life Insurance Company.

Directors' Office, - - - - - Boston, Mass.
CALIFORNIA BRANCH OFFICE,
Southwest Corner Kearny and California Sts.

Advantages in this Company.—First, its safety and stability, acquired in its twenty years' experience. Second, its assets amount to nearly four millions of Dollars, being over one million in excess of its liabilities. Third, all Policies are Non-Forfeitable.

Premiums received, 1862..... $ 150,997.15.
Premiums received, 1867..... 1, 33 405.24.
17v17-3m

CALIFORNIA
BUSINESS UNIVERSITY.

204 Montgomery Street.

Full particulars regarding our Practical Course of Studies may be had by calling at the University, or by addressing
17v17-4y12p E. P. HEALD, San Francisco.

Machinists and Foundries.

PALMER, KNOX & CO.,

Golden State Iron Works,

Nos. 19, 21, 23 and 25 First Street,

SAN FRANCISCO.

MANUFACTURE ALL KINDS OF

MACHINERY,

STEAM ENGINES AND QUARTZ MILLS

DUNBAR'S IMPROVED

Self-Adjusting Piston Packing,

Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

WHEELER & RANDALL'S

NEW GRINDER AND AMALGAMATOR

HEPBURN & PETERSON'S

AMALGAMATOR AND SEPARATOR,

Knox's Amalgamators,

WITH PALMER'S PATENT STEAM CHEST,

Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continual working.

Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10y-tf

IRA P. RANKIN. A. P. BRAYTON. A. C. AUSTIN.

Pacific Iron Works.

First and Fremont Streets,

SAN FRANCISCO.

Having been established since 1851, we have accumulated a very large variety of Gear and other Patterns, which, with our superior tools and appliances, give us facilities for doing first-class work unequaled on the Pacific Coast.

Among other things, we manufacture the following:

STEAM ENGINES,

Horizontal and Vertical, for either Stationary or Marine use.

BOILERS—High and Low Pressure,

Pump, Pipe and Sheet Iron Work of every kind.

Quartz Mill Work,

Including High and Low Mortars, for wet or dry crushing; Furnace Irons for Roasting Ores; Freiberg Barrels; Varney's and Wheeler's Amalgamating Pans and Settlers; Stamp Shoes and Dies of best White Iron; Russia Iron Screens, etc., etc.

Flour Mill, Saw Mill and Sugar Mill Work in every variety; Pumping and Hoisting Machinery; Hansbrow's Patent Challenge Pump, for Domestic, Ship and Mining use—the most approved and successful Pump manufactured.

Castings of every description, Iron and Brass.

We would call especial attention to "Wright's Patent Variable Cut-off Engines," of which we are the sole manufacturers on the Pacific Coast, under license from the Woodruff & Beach Co., Hartford, Ct. As a simple, effective, FUEL SAVING, first-class Engine, this is, without doubt, the best Engine made in the United States.

Orders promptly attended to. Prices as low as possible for first-class work, and we intend to do no other.

GODDARD & CO.

San Francisco, May 1, 1868. 18v16tf

WILLAMETTE IRON WORKS,

PORTLAND, OREGON.

Steam Engines, Boilers,

SAW AND GRIST MILLS,

MINING MACHINERY, WROUGHT IRON SHUTTER WORK, AND BLACKSMITHING IN GENERAL.

Corner North-Front and E streets,

18v13-1y One block north of Couch's Wharf.

Globe Iron Works,

STOCKTON, CAL.

KEEP & BARGION,

MANUFACTURERS OF

Quartz, Saw and Grist Mill Irons, Steam Engines, Horse Powers,

High and Low Pressure Steam Engines, Steamboats and Propellers, made at short notice.

13v13tf

WM HAWKINS. T. G. CANTRELL.

HAWKINS & CANTRELL,

MACHINE WORKS,

Nos. **210** and **212** Beale street, between Howard and Folsom streets, San Francisco.

Manufacturers of STEAM ENGINES and all kinds of Mill and Mining Machinery. N. B.—Jobbing and Repairing done with dispatch. 10v17 3m

To Foundrymen and Blacksmiths.

LUMP LEHIGH AND CUMBERLAND COAL, IN ANY quantity, sacked and shipped to any part of the country, by JAS. R. DOYLE, Coal Dealer, 413 and 415 Pacific street, bet. Sansome and Montgomery, San Francisco.

24v15-3m

CITY IRON WORKS COMPANY,

CLERC & CO.,

IRON FOUNDERS,

Steam Engine Builders, and Makers of all kinds of Machinery,

6v16qr No. 28 Fremont street, San Francisco.

Miners' Foundry

—AND—

MACHINE WORKS

Nos. 245 to 255 First Street,

San Francisco.

HOWLAND, ANGELL & CO.,

PROPRIETORS,

Manufacturers of Machinery for

QUARTZ MILLS, FLOUR MILLS,
SAW MILLS, SUGAR MILLS,
POWDER MILLS, PAPER MILLS

Steam Engines of all Kinds.
Amalgamators of all Kinds.

MINING PUMPS, HOISTING WORKS,
OIL WELL TOOLS, ROCK BREAKERS,

—AND—

Machinery and Castings of all kinds, either of Iron or Brass,

Boilers and Sheet Iron Work in all its Branches,

Shoes and Dies of White Iron, manufactured for and imported by us expressly for this purpose, and will last 25 per cent. longer than any other made on this coast.

Russia Iron Screens, of any degree of fineness. We are the only manufacturers on this coast of the

HICKS ENGINE,

The most compact, simple in construction, and durable, of any Engine in use.

W. H. HOWLAND, H. B. ANGELL,
13v14-qr **CYRUS PALMER.**

FULTON

Foundry and Iron Works.

HINCKLEY & CO.,

MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Hayes' Improved Steam Pump, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.

N. E. corner of Tehama and Fremont streets, above Howard street, San Francisco. 3-qy

McAFEE, SPIERS & CO.,

BOILER MAKERS

AND GENERAL MACHINISTS,

Howard st, between Fremont and Beale, San Francisco.

Flue or Tubular **Boilers**, with plain circular or spiral courses. Upright Flue or Tubular Boilers, Locomotive and and Marine Boilers, and Wrought Iron Tanks of every description.

Hydraulic Pipe supplied at reasonable rates. In ordering, give the quantity of water to be supplied, hight of the fall, and total length of pipe, so as to enable the firm to determine the diameter of the pipe and thickness of iron to be used.

Repairs.—Boilers, Smoke Stacks, Pipes, etc., put in repair with promptness.

To Boiler Makers and Machinists in the Interior.—The firm is prepared to furnish estimates of Boilers, supply new Heads, drilled and punched, and attend to the selection and forwarding of Iron for Boilers, Pipes and other purposes.

Plans, Drawings and Specifications.—The firm is prepared to make out Plans and Specifications, receive estimates, and superintend the Erection of any Machinery that may be entrusted to their care

To Inventors.—The firm is prepared to assist in developing the plans of those who have the ideas but not the practical experience necessary to put the same in form, by making Drawings of their Inventions, giving them the benefit of their practical knowledge in the construction of Machinery, and attending to the manufacture and introduction of their inventions. 1v16tf

UNION IRON WORKS,

Sacramento.

WILLIAMS, ROOT & NEILSON,

MANUFACTURERS OF

CROSS' PATENT BOILER FEEDER,

STEAM ENGINES, BOILERS,

And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old Cylinders, manufactured to order.

Front Street, between N and O streets,

14v11 Sacramento City

Oakland Point Foundry,

Near Oakland Point R. R. Station,

MANUFACTURES

House Fronts, Sash Weights,

Runges, Light and Heavy Castings of all kinds.

Having this day dissolved partnership with G. A. Walker, the business will hereafter be conducted in the name of the undersigned.

☞All orders promptly attended to.

MARTIN T. MEAD.

July 16, 1868. 3v17-tm

LINCOLN IRON WORKS,

No. 51 Beale st., bet. Market and Mission.

D. FOURNESS, Proprietor.

STEAM ENGINES,

Flour and Sawmills, and MACHINERY of all descriptions made and repaired at shortest notice.

☞Particular attention paid to repairing Reynold's Cut-off 5v10qr,

G. T. PRACY.

MACHINE WORKS,

NOS. 109 and 111 MISSION STREET,

Between Main and Spear.



New and second-hand

Engines and Boilers,

FOR SALE.

Also one first-class Hoisting Engine; one Upright Engine, of entirely new pattern.

MANUFACTURER OF

Lathes, Drills,

And MILL MACHINERY of every description.

PRACY'S

New and Improved

STEAM ENGINE

REGULATORS,

The best and cheapest yet invented—manufactured and for sale. Parties are invited to examine it in practical operation.

F. A. HUNTINGTON'S

Shingle Machines

on hand.

Particular attention paid to Repairing.

☞All work guaranteed to be done in a first-class manner, and at the lowest rates. 12v17tf

Phœnix Iron Works.



JONATHAN KITTREDGE, Proprietor,

Nos. 18 and 20 Fremont street, near Market,

MANUFACTURER OF

Fire-Proof Doors, Shutters,

Wrought Iron Girders, and all kinds of Housesmith work, Bridge and Prison Work;

BANK VAULTS AND MONITOR SAFES,

FORGING AND MACHINE WORK.

Agency for the ISHAM KEY REGISTER BANK AND SAFE LOCK, the only first class Lock in the United States

1v17tf

J. NEWSHAM. J. BIGWOOD.

SOUTH BEACH IRON WORKS,

Near corner of King and Third streets, San Francisco.

MARINE ENGINES,

AND ALL KINDS OF

MACHINERY FORGING.

All kinds of Ship-smithing and Mill work manufactured to order. Jobbing of every description promptly attended to. All work done guaranteed. 13v14-1y

CALIFORNIA BRASS FOUNDRY.

No. 125 First street, opposite Minna,

SAN FRANCISCO.

All kinds of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞ PRICES MODERATE. ☜

J. P. GALLAGHER. J. H. WEED V. KINGWELL.

9v13-1y

THOMPSON BROTHERS,

EUREKA FOUNDRY,

129 and 131 Beale street, between Mission and Howard, San Francisco.

LIGHT AND HEAVY CASTINGS,

of every description, manufactured 24v16qr



JAMES MACKEN,

COPPERSMITH,

226 Fremont st., bet. Howard & Folsom.

All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to.

13v11

The Risdon Iron & Locomotive Works,

Incorporated, April 30, 1868. Capital, $1,000,000.

Location of Works, Corner Beale and Howard streets, SAN FRANCISCO.

Successors to Pacific Mail S. S. Co. Works at Benicia, Coffey & Risdon, and Devoe, Dinsmore & Co., San Francisco.

Steam Engine Builders, Boiler Makers,

MACHINISTS AND FOUNDRYMEN.

All work in their line attended to with promptness and dispatch. DIRECTOR—S. F. Butterworth, Lloyd Tevis, Jas. Pollock, Ben. Holladay, Chas. E. McLane, John N. Risdon, Joseph Moore, John N. Risdon, President; Joseph Moore, Vice President and Superintendent; Chas. E. McLane, Treasurer; Lewis R. Mead, Secretary; Lewis Coffey, Superintendent Boiler Works. 8v17-qy

NEW BRANCHES OF INDUSTRY.—In Santa Cruz and Monterey counties many of the farmers have turned their attention this year to the cultivation of flax. The Stockton *Gazette* says the first experiment in flax was made in 1867, and the result was so favorable that it is being tried again on a more extensive scale. Some persons have planted as much as 50 acres, and all seem fully convinced that the crop will pay largely. In Monterey County many large tracts of land were sown with white English mustard, which is now being threshed; it sells at from four to six cents per pound, a price that yields to the producer a handsome profit.

Valuable Books on Mining, Mineralogy, Geology, Metallurgy, Etc.

ANSTED'S Gold Seekers Manual. 1 vol. 12mo. cloth.....$ 1 75

ANTISELL.—The Manufacture of Photogenic or Hydro-Carbon Oils, from Coal and other Bituminous Substances, capable of supplying Burning Fluids. By Thomas Antisell, M. D. 1 vol. 8vo.. 3 00

BARSTOW—Sulphurets; What they are, How Concentrated, How Assayed, and How Worked; With a Chapter on the Blow-pipe Assay of Minerals: 1 vol 12mo. cloth 1 00

BLAKE, W. P.—Geological Reconnoissance in California in 1863-4. Etc., with plates, maps, sections, etc..... 10 00

BLAKE, W. P.—Silver Ores and Silver Mines, etc. 8vo..... 2 00

BLAKE, W. P.—Mining Magazine and Journal of Geology, etc. 8vo..... 5 00

BLAKE, W. P.—Annotated Catalogue of California Minerals. 8vo..... 50

BUCKLAND (Rev. Wm.)—Geology and Mineralogy. 2 vols. 8vo. cloth..... 10 00

BOURNE (John)—Handbook of the Steam Engine, Illustrated. 2 vol. 12mo, cloth..... 2 25

CONGDON.—Mining Laws and Forms of California and Nevada, and the Mining Ordinances of Mexico. 184 pp. 8vo. flexible cloth; 1864. (The only compilation extant)..... 2 50

DUFRENOY.—Mineralogie. 5 volumes, 8vo..... 20 00

DANA'S Manual of Mineralogy. Revised edition. 260 illustrations. 12mo. cloth. New Haven, 1863. School Edition..... 2 25

DANA'S Manual of Geology. Numerous Illustrations. 8vo half morocco. Philadelphia, 1863. 6 75

DANA'S Text-Book of Geology. Illustrated. 12mo, cloth. Philadelphia, 1864..... 2 25

ELDERHORST'S Blowpipe.—Analysis and Determinative Mineralogy. Third edition, revised. 8vo. cloth. Philadelphia, 1865..... 1 50

FAIRBAIRN.—Iron; its History, properties, and Processes of Manufacture. By Wm. Fairbairn, C. E., LL D. 1 vol. 8vo. New Edition..... 5 00

GOODYEAR'S Translation. A Treatise on the Assaying of Copper, Silver, Lead, Gold and Mercury, from the German of Th. Bodeman and Bruno Kerl. 1 vol. 12mo. cloth..... 2 50

HUMBLE.—Dictionary of Geology and Mineralogy. Third Edition, Revised 1 vol. 8vo. cloth. 9 00

HOSKOLD'S Practical Treatise on Mining Land and Railway Surveying, Engineering, Etc. 1 vol. 8vo. cloth..... 16 00

KUSTEL.—Nevada and California Processes of Silver and Gold Extraction, for general use, and especially for the Mining Public of California and Nevada: also, a description of the General Metallurgy of Silver Ores. By Guido Kustel, Mining Engineer. Illustrated by accurate engraving. 1 vol. 8vo. cloth..... 5 00

KUSTEL.—A Treatise on Concentration of all Kinds of Ores: Including the Chlorination Process for Gold-bearing Sulphurets, Arsenurets, and Gold and Silver Ores Generally. By Guido Kustel, Mining Engineer and Metallurgist. Illustrated with 120 diagrams on 7 plates. 1 vol 8vo. cloth..... 7 50

LAMBORN.—Rudimental Treatise on the Metallurgy of Copper. 1 vol. 12mo. limp cloth. Illustrated..... 1 00

LAMBORN.—Rudimentary Treatise on the Metallurgy of Silver and Lead. 1 vol. 12mo. limp cloth. Illustrated..... 1 00

MITCHELL'S Manual of Practical Assaying. 1 vol. 8vo. cloth..... 10 50

MAKINS.—A Manual of Metallurgy, more particularly of the Precious Metals, including the Methods of Assaying them. By G. H. Makins. 1 vol. 12mo. cloth. Illustrated by upwards of 50 engravings..... 3 50

OVERMAN (Fred.)—A Treatise on Metallurgy; comprising Mining, and General and Particular Metallurgical Operations. 1 vol 8vo. cloth. 7 50

PIGGOT.—The Chemistry and Metallurgy of Copper. By A. Snowden Piggot, M. D. 1 vol. 12mo. cloth..... 2 00

PHILLIPS AND DARLINGTON.—Records of Mining and Metallurgy; or, Facts and Memoranda for the Use of Mine Agents and Smelters. By J. A. Phillips and John Darlington. 1 vol. 12mo. cloth..... 4 00

PERCY (John).—Metallurgy; the Art of Extracting Metals from their Ores, and adapting them to various Purposes of Manufacture. Iron and Steel. 1 vol. 8vo. cloth. 13 50

PLATTNER AND MUSPRATT on the Use of the Blowpipe. 47 Diagrams. Third edition, revised. 8vo cloth. London, 1854..... 6 00

Practical Use of the Blowpipe; being a Graduated Course of Analysis. 12mo. cloth. New York, 1858..... 2 00

SCOFFERN'S Useful Metals and their Alloys. 1 vol. cloth..... 5 50

SMITH'S Blowpipe—Vade-Mecum. The Blowpipe. Characters of Minerals Alphabetically Arranged. 8vo. cloth. London, 1862..... 1 75

URE'S Dictionary of Arts, Manufactures, and Mines. 2,300 Engravings. From last London edition. 3 vols. 8vo. cloth New York..... 16 50

WHEELER & RANDALL'S Quartz Operator's Handbook. Flexible cloth, 12mo. San Francisco 1865..... 1 00

WHITNEY.—A Geological Survey of California. Report of Field Work from 1860 to 1864. By J. D. Whitney. Per. vol quarto..... 6 00

Any of the above Books will be furnished by return mail or express, on receipt of the price with postage added. Any other books desired will also be furnished at the lowest San Francisco retail prices. Address,

DEWEY & Co.,

Mining and Scientific Press Office, San Francisco.

A SNAIL IMBEDDED IN QUARTZ.—The *Territorial Enterprise*, of Oct. 8th, says:

We were yesterday shown a decided curiosity in the mineralogical or geological way, being nothing less than a snail firmly imbedded in a piece of quartz. It was found thirty feet below the surface of the ground, in the Varieties claim, Rocky Bar, Yuba District, Idaho. The back of the snail only is visible, projecting out of the rock, but it is so perfect in appearance that no one can fail to detect at first sight that it is unmistakably a *snail*. How this unfortunate snail came in that adamantine position is a matter for speculation for the curious, as well as for the scientific *sarans* who say all quartz veins are formed through the medium ship of gases and other similar influences proceeding from the interior of the great globe.

The "*sarans*," it would seem, have a very lucid idea of how the quartz gets there. An endless number of cases like the present, are recorded where scientific people are agreed that the quartz can have been deposited only from a watery solution, and in the same manner that wood is petrified, or that silicious sinter is formed around certain springs. Alkaline waters will dissolve quartz like sugar, under warmth and pressure.

PETERMANN'S WORKING UP OF ARCTIC GEOGRAPHY.—Dr. Petermann, of Gotha, the celebrated German geographer, and head of the expedition which started last spring from Bremen to advance to the North Pole, has written a recent letter to the Prussian Consul, Schaefer, at Honolulu, in which he refers to the interesting communications which the *P. C. Advertiser*, of the 9th November, 1867, contained in regard to the discoveries made lately in the Arctic seas, by American whalers. He mentions in this connection particularly, the name of Capt. Long, also Captains Raynor and Bliven, and states that all their reports had been translated into the French and German languages. Dr. Petermann desires that some log books of Arctic voyages of this and preceding years, may be sent to him, believing that in no other way the experience of captains of whaleships could be made more useful to the world at large than in so doing.

METALLURGICAL EXPERIMENTS IN INYO.—A new process of working ores is proposed, and being tried by a miner of this county, which, so far, consists in placing the quartz or gold rock (as the case may be) dry crushed into an iron cylinder, with a quantity of mercury, and applying a low degree of heat to the whole. The cylinder is then made to revolve rapidly. The new method is said to work well in small quantities, and the inventor says he is sure of being able to work much larger quantities when suitable machinery is erected.

MINERAL NITER.—Owing to the destruction of the nitrate works at Iquique, South America, by the great earthquake, the estimated deficiency in the production and shipment of nitrate of soda for the next four months will amount to full 400,000 bags, which has already had the effect to advance the price of all kinds of gunpowder fully fifty cents per keg.

At Iquique 167,000 quintals of saltpeter were washed away by the sea.

THE POSTAL ORDER SYSTEM.—The amount of money transmitted by the money order Post Offices during the fiscal year ended June 30th, is about $15,000,000. The amount transmitted by this system in the last fiscal year was $9,000,000.

SAN FRANCISCO TIDE LANDS.—The survey of the tide lands is now nearly completed, and the sale will soon take place.

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DR. A. FOLLEAU
Has his studies and manufactories in the same building. Every kind of Apparatus, Trusses, Orthopedic Instruments, Artificial Limbs, etc., are manufactured and applied by himself.
☞ *He has no connection with any Agency.* 24v14-11ptf

JAMES M. TAYLOR,
Attorney and Counsellor at Law,
Court Block, 636 Clay Street
SAN FRANCISCO.
2v15-1qy

Edward and John A. Stanly & A. W. Blair
ATTORNEYS
AND COUNSELORS AT LAW,
Southeast corner of California and Sansome streets, over the Bank of British Columbia 19v16-3m

Removal.
DR. D. T. MORGAN
Has removed from Sacramento street to No. **226** Sutter street, near Kearny, where he has opened an Infirmary for the benefit of the Blind. All laboring under diseases of the Eye can and will be successfully treated. 13v17-1m

Pacific Powder Mills.

SUPERIOR BLASTING AND SPORTING GUNPOWDER

Black Diamond, in 1lb canisters.
do do in ½lb canisters.
do do in ¼ kegs.
Hunter's Pride, in 1lb canisters.
do do in ½lb canisters.
do do in ¼ kegs.
do do in ⅛ kegs.
Pacific Mills River Shooting, in 1lb canisters.
do do do in ½lb canisters.
do do do in ¼ kegs.
do do do in ½ kegs.
do do do in 25lb kegs.
Pacific Mills Rifle, in 1lb canisters.
do do in ½lb canisters.
do do in ¼ kegs.
do do in ½ kegs.
do do in 25lb kegs.

Blasting and Mining Powder $2 25 per keg.

Safety Fuse and Shot for sale by
HAYWARD & COLEMAN, Agents.
24v15-3m 414 Front street, San Francisco.

NOTICE.

TO ALL WHOM IT MAY CONCERN.—Notice is hereby given, that I am the first discoverer, first locator, and first Recorder of the Morey District, Nye County, Nevada, and I warn all persons from buying any interest in the said Morey mines until I prove my title to be perfect and lawful to said mines.

THOS. J. BARNES.
Austin, Nev., Oct. 9, 1868. 16v17 1m

Fluctuations in Leading Mining Shares for the past Six Months.

NAME OF COMPANY.	April 10th.	April 20th.	April 30th.	May 11th.	May 20th.	May 30th.	June 10th.	June 20th.	June 30th	July 10th.	July 20th.	July 30th	Aug. 10th.	Aug. 20th.	Aug. 30th.	Sept. 10th.	Sept. 20th.	Sept. 30th.
Ould & Curry.....per ft.	600	560	555	540	420	470	110	112	114	101	103	105	91	88	105	94	81	100
Ophir. ...	215	180	175	167½	167	180	119¼	125¼	14	151¼	22¾	21	20½	32	21	18	17	17
Savage	177	153	153	156¼	151	158¾	163	151¾	157¾	136	138¾	123¾	129	113	118¾	91¼	90	105
Chollar-Potosi	347½	240	225	247½	230	216	240	215	253	211	181	134	138	162	138¾	153	149	158
Hale & Norcross.....	2 425	2,000	2,000	127½	110	105	117	80	102	71	65	79	71½	77	93	53¾	48¾	49
Sheba.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Daney.....	20	19	7½	18	14	23	7	7½	8	7¼	....	3½	....	....	....	....	3½	6¼
Wide West.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Raffion	112½	60	52	70	54	47	37½	23	30	26	23	21	17¼	22	20	15	16	15½
Real del Monte	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
El Dorado	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Overman	210	150	125	127½	....	82	77	77½	82	69	82	78	78	110	88	83½	81	83
Sierra Nevada.....	30	17	14	18	26	25	31	25	30	27	29	32	38¾	37	27	27	20	16½
Yellow Jacket.....	1,538	1,280	1,340	1,480	1,050	1,200	1,200	1,205	1,115	1,205	1,210	1,220	1,135	1,221	1,400	1,270	1,190	1,400
Amador	300	287½	297½	292½	230	....	261	255	215	225	235	265	260	237½	212½	233	240	240
Lady Bryan	58	38	28	38	29	23	31	25	32½	27	23	14	15	15	21	16	12	16
North American	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Baltimore American	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Melones	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Sacramento	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
White & Murphy	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Imperial.....	235	213	220	250	202½	208	220	160	144	131	118	103	111	118¾	114	108	97	108
Crown Point.....	2,150	2,175	2,225	2,290	108	117	113¾	104	91	88¾	84	88	87½	87	84	68	44¾	47
Belcher.....	380	325	305	310	342½	301	245	240	190	172½	152½	115	122½	140	164	160	125	135
Alpha.....	100	88	84	88	66	75	72	57½	52	47¾	44¾	41	51	59	51¾	51	45¾	47
Empire M. and M. Co.	315	260	265	....	200	225	225	....	150	....	135	121	115	115	130	115	....	101
Confidence.....	100	....	95	....	62½	....	50	....	....	38	38	35	....	....	35	....	30	....
Justice and Independent ..	38	21	15	15	....	....	....	....	....	....	....	5	....	....	....	....	....	6
Exchequer	79	46	43	57½	35	41	39	31	29	25	21	21	19	19	19	....	12	14½
Kentuck.....	477½	415	450	477½	410	417	345	330	372½	392½	337½	342½	351	450	425	411	295	288
Gold Hill Q. M. Co.....	125½	125	120	125	111	....	117½	82½	100	85	70	69	65	....	64	62	....	....
Segregated Belcher.....	25½	17¼	15	13	111	94	85½	113	10	10	138	14¼	11½	13¾	11¾	10¼	9	9¾

A New Treatise on Concentration of All Kinds of Ores.

INCLUDING THE CHLORINATION PROCESS FOR Gold-Bearing Sulphurets, Arseniurets, and Gold and Silver Ores Generally, by GUIDO KUSTEL, M. E. & M., author of Nevada and California Processes of Silver and Gold Extraction—120 lithographic diagrams.

OPINIONS OF THE PRESS.

KUSTEL'S NEW WORK.—Mr. Guido Kustel has not put forth another volume, a copy of which we have received from tho publishers, Dewey & Co., San Francisco. The book contains 120 diagrams on seven plates. In issuing tho work, the design of the author appears to have beeo to exhibit the present state of the art of concentrating ores as practiced io the older and more experienced mining sections of the world, as well as in the more recent mining operations in California. The principles on which the system of concentration is founded aro stated without entering into scientific reasons.

The dressing of ores is treated at great length, and the plan is based on these principles: "1st. Each constituent of tho mass of oro must he brought to the highest value which can advantageously be given to it. 2d. The useful minerals must be concentrated only to the most advantageous degree of purity; and, 3d. All loss of the quantity and value of tho useful mineral must be avoided as far as practicablo." Reduction in its diversified modes—by rock-breakers, stamps, rolling mills, and grinding in arastras, pulverizers, Chili mills and pans—necessarily occupies large space by reason of its importance.

The plan of reducing ores by stamps, in either tho wet or dry process, forms a complete treatise of itself, and may be studied with advantage by all persons connected with reduction works of that character. Concentration of gold ores is specially treated in section 49, and of silver ores in section 50. The latter subject should possess interest for our millmen and miners, as tho plan of concentrating ores is certain to be resorted to as soon as the bnsiness is understood and reduced to a system.

Tho sections of the work devoted to the extraction of gold from sulphurets, arseniurets, or quartz, by chlorioation, aro based on Plattner's process of the property of chlorine gas to transform metallic gold into soluble chloride of gold. By this process it has been demonstrated that gold is extracted perfectly. Our author says the process was first introduced into Nevada, California, in 1858, where there are several establishments in successful operation.

The process of chlorination is described in the fullest manner, and embraces a particular description of the various roasting furnaces in use, as well as of the operation of roasting.

We commend Mr. Kustel's treatise to the attention of all concerned in tho business of mining and reducing ores, to whom it must prove a valuable hand-book of practical knowledge.—*Daily Reese River Reveille, Jan.*, 1868.

Price of the work, $7.50. Published by Dewey & Co., MINING AND SCIENTIFIC PRESS, San Francisco, who will supply orders, by mail or express, at wholesale or retail.

U. S. STAMP DUTIES.

Agreement or Contract, or renewal of same	$0 05
Bank Check for whatever amount	0 02
Bill of Lading to foreign ports (except British North America)	0 10
Bond of Indemnity, each $1,000 or part	0 50
Bond for Executing Duties of any Office	1 00
Certificate of Stock	0 25
Draft at Sight	0 02
Draft at Sight, each $100 or part	0 05
Deed for any Real y, each $500 or part	0 50
Lease or Assignment of same, not over $500	0 50
Lease above $500, each added $500 or part	0 50
Mortgage or assignment of same, over $500 and not over $550	0 50
Mortgage, each added $500 or part	0 50
Notes, each $100 or part	0 05
Power of Attorney to sell Stocks, or collect dividends or interest thereon	0 25
Power to sell or rent Real Estate	1 00
Power to Collect Rents	0 25
Protest of Note or Draft	0 25
Receipt for over $20	0 02

Delays are Dangerous.—Inventors on the Pacific Coast should bear in mind that by patronizing our Patent Agency they can sign all necessary papers for securing patents almost immediately, thereby avoiding the three month's delay requisite in transacting business through Eastern agencies.

New Mining Advertisements.

Golden Rule Mining Company, Tuolumne County, California.

San Francisco, October 22, 1868.—Regular dividend (No. 16) of the Golden Rule Mining Company, of Tuolumne County, Cal., was this day declared, and will be paid on and after the 26th inst., of 2½ per cent. per month, or fifty cents per share.

J. B. RUSSELL, Secretary.

Office, No. 5, corner Sacramento and Montgomery streets, over E. Kelly's Bank, San Francisco.

A. S. PAIGE, Superintendent of Mine.
W. T. BOSWORTH, President. oc24

Kearsarge Mining Company, Kearsarge District, Inyo County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the eighteenth day of September, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificates.	No. Shares.	Amount
Alberding, T H	44, 45, 46, 47	79	$79 00
Bliss, D L	18	200	200 00
Gillig, Mott & Co	14	75	75 00
Garlick, A	53	206	206 00
Gray, T C	50	20	20 00
Gillig, Mott & Co	not issued	100	100 00
Gilling, John	not issued	85	85 00
Hastings, D L	36	100	100 00
Leet, W N	17	215	215 00
Morgan, J	not issued	309	309 00
Sunderland, Thos	3	285	285 00
Van Gorder, C H	16	558	558 00
Winters, John B	15	599	599 00

And in accordance with law, and an order of the Board of Trustees, made on the eighteenth day of September, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, Cal., on the tenth day of November, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office, 408 California street, San Francisco. oc24

Providence Gold and Silver Mining Company, Nevada County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the eleventh day of September, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount
O M Bowne	81	12½	$25 00
G M Bowne	84	15	30 00
G M Bowne	107	25	50 00
G M Bowne	108	35	70 00
G M Bowne	149	75	150 00
W F Bowne	105	20	40 00
W F Bowne	106	10	20 00
W F Bowne	118	22	44 00
W F Bowne	120	25	50 00
W F Bowne	142	10	20 00
John S Carter	104	20	40 00
John S Carter	101	20	40 00
John S Cart r	115	10	20 00
Phebe R Carter	167	5	10 00
Peter M Cain	170	10	20 00
Wm Davis	165	10	20 00
Wm Davis	168	20	40 00
Wm Davis	2 9	5	10 00
Thatcher Emery	83	3	6 00
Thatcher Emery	90	3	6 00
Thatcher Emery	214	5	10 00
A Folsom	9	50	100 00
A Folsom	13	5	10 00
B J Hall	145	10	20 00
H S Huntington	34	50	100 00
H S Huntington	173	87½	175 00
Chas Hanson	36	10	20 00
Chas Hanson	83	10	20 00
Chas Hanson	134	24	40 00
Chas Hanson	172	5	10 00
Abm Hall	15	12½	25 00
Abm Hall	141	10	20 00
Abm Hall	205	10	20 00
Abm Hall	206	5	10 00
Mills & Evans	135	0	12 00
J Mulcahy	155	8	15 00
H T Theburn	98	2	4 00
H W Taylor	204	10	20 00
H W Taylor	268	15	30 00
A Walrath	144	20	40 00
A Walrath	88	4	8 00
A Walrath	215	5	10 00
A Walrath	270	45	90 00
N C Walton, Jr	273	100	200 00
N C Walton, Jr	274	100	200 00
N C Walton, Jr	275	90	180 00

And in accordance with law, and an order of the Board of Trustees, made on the eleventh day of September, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at their salesrooms, No. 426 Montgomery street, San Francisco, on Thursday, the fifth day of November, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. BUFFINOTON, Secretary.

Office, Room 37 New Merchants' Exchange, California street, San Francisco. oc24

TWO ROCKS, Sonoma Co., Cal., Sept. 23, 1868.—Messrs DEWEY & Co:—On my arrival home, I found my Letters Patent all arranged to my entire satisfaction. Please accept my thanks for the energy, skill and dispatch with which you procured it for me. In future, should I require assistance in your line of business, I shall most certainly apply to you. Truly yours,
MICHAEL LAUFENBURGE.

ASSESSMENT NOTICE.

Notice is hereby given, that an assessment of one dollar per share on the stock of the NEVADA COUNTY GOLD MINING COMPANY is due, and payable at the office of the Company, No. 9 Merchants' Exchange, San Francisco, within thirty days from date. Any of the above stock upon which said assessment shall remain unpaid on the 19th day of December, 1868, will be sold at public auction, at the office of the Company, as above, at 12 o'clock, noon, in accordance with law and per order of the Board of Trustees.

W. AUG. KNAPP, Secretary.

San Francisco, Oct. 19th, 1868. oc24

Rippon Gold and Silver Mining Company.—Location of Works: Silver Mountain District, Alpine County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifteenth day of of October, 1868, an assessment of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 37 Stevenson street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the nineteenth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the eighth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

P. CARROLL, Secretary.

Office, No. 37 Stevenson street, between First and Second streets, San Francisco. oc24

Mining Notices--Continued.

Bunker Hill Quartz Mining Company. Location of Works: Near Amador, Amador County, Cal.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the nineteenth day of May, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. shares.	Amount.
H H Chandler	7	20	$200 00
H H Chandler	8	20	200 00
H H Chandler	9	10	100 00
Joseph H Capen	32	10	100 00
Joseph H Capen	33	6¾	66 67
Ann Maria Chandler	34	10	100 00
Ann Maria Chandler	35	6¾	66 67
L E Chase	13	20	200 00
L E Chase	14	20	200 00
L E Chase	56	5	50 00
S Ed Chase	10	20	200 00
S Ed Chase	11	20	200 00
S Ed Chase	55	5	50 00
Benj F Perkins	54	10	100 00
Curtis, Bouve & Co	16	20	200 00
Curtis, Bouve & Co	17	20	200 00
Curtis, Bouve & Co	18	10	100 00
Emery Taylor	22	20	200 00
Emery Taylor	24	20	200 00
Emery Taylor	24	10	100 00
Oliver H Hay	25	20	200 00
Oliver H Hay	53	4	40 00
Oliver H Hay	82	1	10 00
Ezra Farnsworth, Trustee	71	20	200 00
Ezra Farnsworth, Trustee	75	5	50 00
James Hunnewell	76	20	200 00
James Hunnewell	77	16¾	163 34
John Preston	79	24	240 00
W A Palmer (sold to J Preston)	73	10	100 00
A G Greeley	86	5	50 00
A G Greeley	93	10	100 00
A G Greeley	94	5	50 00

And in accordance with law, and an order of the Board of Trustees, made on the second day of September, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, in Front of City Hall, corner of Kearny and Merchant streets, San Francisco, California, on the twenty-sixth day of October, 1868, at the hour of 10 o'clock A. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

WALES L. PALMER, Secretary.

Office, No. 19 First street, San Francisco, California. oc10

Chipionena Mining Company--District of Ures, Sonora, Mexico.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the seventh day of September, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Moshelmer, Jos	56	25	$125 00
Moshelmer, Jos	57	26	130 00
Smith, R	86	5	25 00
Quin, Thos	55	5	25 00
Anderson, J	94	29	145 00

And in accordance with law, and an order of the Board of Trustees, made on the seventh day of September, 1868, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the salerooms of J. Middleton & Son, 310 Montgomery street, San Francisco, on the twenty-sixth day of October, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN F. LOHSE, Secretary.

Office, 318 California street, up-stairs, San Francisco. oc10

BY MAIL.—The *Mining and Scientific Press* will be sent by mail to any part of the civilized world. In case of removal subscribers have only to inform us of the post office address of the old and new location, and the paper will be sent accordingly.

Cordilleru Silver Mining Company, Morelle District, Chihuahua, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixteenth day of October, 1868, an assessment of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at his office, 321 Washington street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eighteenth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the seventh day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

HENRY R. REED, Secretary.

Office, 321 Washington street, San Francisco. oc17

Diamond Copper Mining Company. Location: Rockland District, Del Norte County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the 4th day of February, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Lewelling, J	303	83½	$15 67
McNamara, Mary	183	83½	16 67
Peterson, Geo C	179	5	10 00
Peterson, Geo C	250	25	50 00
Remington, J C	296	1	2 00
Weber, C M	32	50	100 00
Weber, C M	33	50	100 00

And in accordance with law, and an order of the Board of Trustees, made on the tenth day of September, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by R. R. Rollins, auctioneer, at salesroom No. 522 Market street, San Francisco, California, on Monday, the twenty-sixth day of October, 1868, at the hour of 11 o'clock A. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. A. COOLIDGE, Secretary.

Office, Room 40 Merchants' Exchange Building, California street, San Francisco, Cal. oc10

Gold Hill Tunneling Gold and Silver Mining Company.—Location: Gold Hill Mining District, County of Storey, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the ninth day of October, 1868, an assessment (No. 11) of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, R. Wegener, 414 California street, San Francisco, Cal., or to the Superintendent, H. Huguel, Gold Hill, Nevada.

Any stock upon which said assessment shall remain unpaid on the eighteenth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the ninth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. WEGENER, Secretary.

Office, 414 California street, San Francisco. oc17

Glenwood Mill and Mining Company, Greenwood, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board Trustees of said Company, held on the tenth day of October, 1868, an assessment of fifty dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 434 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twentieth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the ninth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

WILLIAM VALE, Secretary.

Office, 434 California street, San Francisco. oc17

Great Central Mining Company.—Location of Works: Yuma County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the ninth day of October, 1868, an assessment of two and one-half dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company.

Any stock upon which said assessment shall remain unpaid on the eleventh day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the thirtieth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

O. D. SQUIRE, Secretary.

Office, No. 414 Montgomery street, San Francisco. oc17

Hope Gravel Mining Company. Location of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifth day of October, 1868, an assessment (No 26) of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 25 Merchants' Exchange, California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on Tuesday, the tenth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirtieth day of November, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary.

Office, No. 25 Merchants' Exchange, south side of California street, between Montgomery and Sansome streets, San Francisco, California. oc10

Rattlesnake Gold and Silver Mining Company, Brown's Valley, Yuba County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirteenth day of October, 1868, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eighteenth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the seventh day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary.

Office, 318 California street, San Francisco, Cal. oc17

Washington Mining Company.—Location of Works: Nevada County, California.

The regular Annual Meeting of this Company, will be held on SATURDAY, THE THIRD DAY OF NOVEMBER 1868, at one o'clock P. M., at the office of the Company, No 318 Front street, San Francisco.

JOHN J. SCOTCHLER, Secretary.

San Francisco, Oct. 10, 1868. oc10

ELECTROTYPE ENGRAVINGS, CUTS, ETC.—Our Job Printing Office is abundantly supplied with elegant engravings, ornaments, and other embellishments to suit the various branches of industry in this State

Machinery.

VARNEY'S
PATENT AMALGAMATOR

These Machines Stand Unrivaled.

for rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

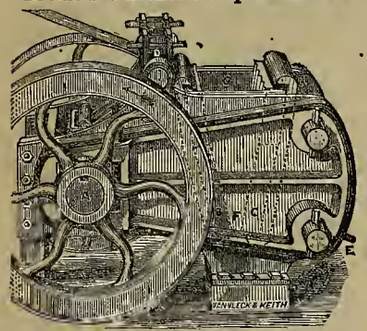
The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setlers for themselves, at the **PACIFIC FOUNDRY,**

1v1 San Francisco.

Brodie's Patented Improvements



FOR THE TREATMENT OF

Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:

No. 1—Or 9-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price..... $600

No. 2—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour..... 850

No. 3—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour..... 1,200

These Crushers have been erected at several mines in the State of Nevada, and others in Calaveras, Tuolumne and Mariposa counties, to whom applicants can be referred as being the most efficient, cheapest, and least weight compatible with strength and durability, of any Crusher yet erected.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.

JAMES BRODIE, Fulton Foundry, or
CHARLES RADCLIFF,
Express Building, 402 Montgomery street,
12v13tf San Francisco.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE
—BY—
WM. P. BLAKE,
Corner First and Mission streets, or Box 2,077
3v13f SAN FRANCISCO.

REMOVAL.



E. O. HUNT'S

Manufactory of
Windmills, Horse-Powers and Pumps,

Has been removed from the old stand on Second street, to

114 and 116 Spear st.,

Next above Stuart and south of Mission st, San Francisco.

Hunt's Patent Wind-Mills, Tread Horse-Powers, Sweep Horse-Powers, (for one or four horses), Sawing Machines, Pumps of all kinds for shallow or deep wells,—including Hunt's Submerged Pump, Hunt's Globe Pump, and Hunt's Single and Double-Acting Pump. Pumping Machines and general Machinery kept constantly on hand and built to order.

Also, Water Tanks of all sizes.

Having put up large new buildings specially for my business, with greatly increased facilities in the way of room and steam power, I shall be able to build everything in my line at greatly reduced rates.

All desirous of procuring water for irrigating or other purposes, are invited to examine my articles before purchasing elsewhere.

2tv16 **E. O. HUNT, Proprietor.**

GLASGOW
Iron and Metal Importing Company

Nos. 25 and 27 Fremont street,

SAN FRANCISCO,

Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings which they offer to the trade on liberal terms.

2tv16 3m D. McGRINDLE, Manage.

Fire, Hose and Machine Belting.

THE SUBSCRIBER CONTINUES TO MANUFACTURE 1 Oak Tanned Leather Fire Hose, warranted superior to Eastern Hose, manufactured at the Sixth Street Tannery, San Francisco.

21v16tf JOHN J. FULTON.

C. F. TRAVIS,



Manufacturer of
FRENCH
BURR
Mill-Stones,
AND
PORTABLE
MILLS.

Agent for
Dufour & Co's
Celebrated
DUTCH ANCHOR BOLTING CLOTHS.

Mill Picks, Mill Picks Dressed, Mill-Stones Repaired and Rebuilt; Mill-Stones Balanced with Fellenbaum's Patent Balance, of which I am sole Proprietor for California, Oregon, and Washington Territory. C. F. TRAVIS,
5v16tf 109 Mission street, San Francisco.

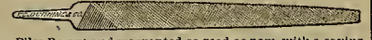
Belting and Lacing.

AN ENTIRELY NEW AND SUPERIOR ARTICLE OF exclusively mechanical preparation, made to order on short notice, and for sale by H. ROYER, at 435 Brannan street, between Third and Fourth. Refers to Eleen Bros., Pioneer Mills; Martin Steen, National Mills; Horace Davis, Golden Gate Mills; also, N. W. Spaulding, Saw Manufacturer. 6v16-3m

PACIFIC FILE WORKS,

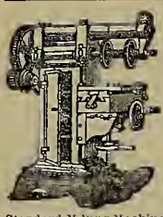
No. 53 Beale Street, bet. Market and Mission,

SAN FRANCISCO.



Files Re-cut and warranted as good as new, with a saving of fifty per cent. REAPER AND MOWER SECTIONS MADE TO ORDER. The only establishment on the Coast. Orders from the country promptly attended to. ☞ First Premium awarded at the State Fair, 1867.

2v17-3m **T. G. DURNING & CO**



Standard Mining Machine.



Pipe Vise, with or without Extra Jaw.

UNION VISE COMPANY,

OF BOSTON, MASS.

Extra jaw, and heavy Vises, Warranted for heavy work. New style Wood and Covered Screw Vises, forty styles and kinds; Standard Milling Machines, simple, great capacity, power and strength—two sizes, large, 2,300 lbs; small, 950 lbs. For sale by the trade.

23v16-1y G. H. NOTT, Pres.

FOR SALE,
BY STANFORD BROS.,

DEVOE'S COAL OIL, PARAFINE OIL, MACHINE OIL, Lard Oil, China Oil, Neats Foot Oil, Sperm Oil, Boiled Linseed Oil, Alcohol, Polar Oil, Tanner's Oil, Elephant Oil, Binnacle Oil, Turpentine, Oil Soap, Crude Petroleum, Lamp Stock of all kinds. GASOLINE, Gravity 85. NAPHTHA, Gravity 65 and 71. Also, GRANT'S CANDLES, in lots to suit.

10v17-3m

NELSON & DOBLE,

AGENTS FOR
Thomas Firth & Sons' Cast Steel, Files,

Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks,

Stone Cutters', Blacksmiths' and Horse-Shoers' Tools,
319 and 321 Pine Street,
Between Montgomery and Sansome, San Francisco.
10v14qr

J. SWYNEY,
MARINE ENGINEER,

53 Montgomery Block, San Francisco.

Is prepared to furnish General Plans, Specifications, and full detail Drawings for propeller or side-wheel steamers, iron vessels of all classes, engines, boilers, etc. Also for locomotive or stationary engines, and machinery in general. An experience of over twenty years in this profession enables us to furnish correct drawings and guarantee results. 8v17-tf

Notice to Miners,
Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG,
8v13-1y Stove Store, No. 125 Clay street, below Davis.

STOCK CERTIFICATES,
STOCK TRANSFER JOURNALS,
STOCK LEDGERS,
ASSESSMENT RECEIPTS,

And all other Blanks, Blank Books, etc., required by Mining and other Corporations, kept on hand or printed to order on short notice, at moderate prices, at the office of the *Mining and Scientific Press.*

HUNGERFORD'S
Improved Concentrators.

The above very SUPERIOR MACHINE,

WITHOUT DOUBT THE BEST IN USE,

Is now, since the retirement from business of Messrs. Goss & Lambard, of Sacramento,

MADE EXCLUSIVELY

by the undersigned, at the

PACIFIC IRON WORKS,

Where the concentrators may be seen.

GODDARD & CO.

October 9, 1868. 15v17tf



HYDROSTATIC WORKS.



SAN FRANCISCO
Pump Manufactory
And Patent Water Closets.

M. D. LASSWELL,

No. 747 Mission Street, bet. Third and Fourth.

House Plumbing and Gas Fitting in all of its modes. Lead, Iron and Copper Piping fitted for water, steam and gas. Ship Plumbing, and Ship Pumps made and repaired. Hose of all sizes, Couplings and Nozzles, Roses and Rose Stands, and all kinds of Brass Cocks. Force, Lift and Suction Pumps of all sizes made and set to order.

I am now prepared to make all kinds of Pumps for miners and for irrigating in a large way. I am making four sizes of single acting Brass Pumps, similar to the Haden & Sanders Brass Pumps. I am also making a very superior Pump to any in this market for windmills, single-acting. I am making four different kinds of double acting Force Pumps, and different sizes of each kind. I am also making Artesian Well Pumps of a superior kind. This Pump may be lowered in any well to any depth desired. It is a force pump, or it is a suction pump, or it is a lift pump, and may be worked by hand or windmill, or any kind of power. Can be used for oil wells better than any other, and the Pump is the most durable and easiest repaired of any Pump in the country.

I have invented and am making a superior double-acting Force Pump, called the GOLDEN STATE, which has great advantages over any Pump in this State. It is the easiest Pump repaired, and is the most durable of any Pump in the pump kingdom.

☞ This Pump received the **Silver Medal** and highest premium at the Mechanics' Fair; also the highest premium at the late State Fair. At the San Jose Fair my Hydraulic Force Pump received the First Premium, and four other Pumps each a diploma.

Any one in want of a Pump or anything in my line, will do well by calling at my place before purchasing elsewhere. ☞ I also keep all kinds of DOUGLASS and other makers' Pumps on hand. 11v17-tf

Heuston, Hastings & Co.,

ARE THE

Fashionable Clothiers

OF

San Francisco.

SPECIALTIES.

PRICE AND GUARANTEE.

The largest and most varied stock of Gentlemen's Clothing, Furnishing Goods, Trunks, Bags and Valises, on the Pacific Coast. Every article sold, being of our own manufacture, is guaranteed. Having contracts direct with European and American manufacturers of piece goods, we thereby effect a saving of fully 50 per cent. in wholesale dealers' profits, and are thus able to offer superior goods at less than second-rate prices.

STYLES.

Having agents in London and Paris, we introduce the new styles in San Francisco simultaneously with their appearance in New York.

GOODS MADE TO ORDER.

For the accommodation of such as may desire, we have secured the services of a celebrated European cutter, and are prepared to make up piece goods in a style superior to any other house on the coast. Shirts, Ties, Collars, etc. made to order at short notice.

COUNTRY ORDERS.

Goods forwarded by Express to any part of the Pacific Coast on receipt of orders and measures; send for directions for measurement.

Heuston, Hastings & Co.,

Lick House Block,

San Francisco.

5v17-3m

PATENT OFFICE REPORTS, from 1843 to 1847, MECHANICAL are wanted for duplicate copies at this office. Parties having them for sale will please state price, and address NEWEY & CO., Mining and Scientific Press office, San Francisco.

DEFOE'S ISLAND, where the adventures of his hero, Robinson Crusoe, actually took place—minus the novelist's imaginative coloring—was not Juan Fernandez but Trinidad, at the mouth of the Orinoco, or perhaps a smaller island in the same vicinity; and the shipwrecked mariner whose experiences furnished the ground-work of Robinsou Crusoe was Peter Serrano, a Spaniard. The original title, and ample internal evidences, locate the scene of the story unequivocally at the mouth of the Orinoco.

AMERICAN LEAD PENCILS.—All first class lead pencils have been manufactured in Europe until recently. The American Patent Lead Pencil Co., of New York, have now taken the field, and are supplying the market with a good article of home manufacture. An agency has been established in San Francisco, and Mr. Fountain, of Oakland, has engaged to introduce the new article to the trade in the interior.

HOME OF THE SANDWICH ISLAND LEPERS. Passengers from California to Honolulu have generally a fine chance, coasting along the northern shore of Molokai, the day previous to coming into port, to admire the cloud-capped precipices of that island. At the foot of those *palis*, almost unnoticeable from the sea, is a shell of rich land. Here with cliffs in the rear, and the broad ocean on three sides, is the secluded place allotted to a class of people whose number has rapidly increased during the past year. The Chinese leprosy has spread most lamentably among the Hawaiians of late, and all attempts at isolation have seemed to prove unavailing.

GEOLOGICAL SURVEY OF COLORADO AND WYOMING.—Prof. F. V. Hayden is actively engaged in the prosecution of the geological survey of Colorado and Wyoming Territories. Fine collections have been made of minerals, such as coal, iron and building materials. The Professor has had the opportunity presented him of making a tour on the Union Pacific Railroad towards Fort Bridger, a portion of the country full of interest to geologists and mineralogists. On the return of the Professor, his party will go to Denver, Colorado, crossing the Black Hills. The Professor intends to make a thorough examination of the mining region, giving special attention to coal and iron.

CENTRAL PACIFIC AND OREGON RAILROAD. At a meeting of the stockholders of the California and Oregon Railroad, held in this city last week, the following persons were elected Directors: Leland Stanford, E. B. Crocker, C. P. Huntington, Mark Hopkins, Charles Crocker and E. H. Miller, Jr. Leland Stanford was chosen President; C. P. Huntington, Vice-President; Mark Hopkins, Treasurer; and E. H. Miller, Jr., Secretary.

THE NATIONAL LABOR CONGRESS has been discussing the question of strikes on a motion to strike out of the platform the clause condemning them. In this discussion Miss Susan B Anthony had a good deal to say. She believes in strikes, she said, and also in special Providences. The motion was not agreed to.

SILVER MINING will be profitable some time in England. The weight of silver lost by abrasion in that country in the course of a year—and of course it ultimately goes to the soil—is 54,750 ounces.

SUPERSTITIOUS Iowa farmers harvest their wheat at night from an impression that the moonlight makes the straw soft and easier to be handled. The condition of the atmosphere has more to do with it than the moon.

THE Illinois State Geologist happened to stray into an Indiana city with his bag of stone-breaking tools, and was carried off to the station house by the police as a burglar.

It costs $32 per foot of draught to get in and out of the Columbia river, for all vessels drawing ten feet of water or less, while large ships pay as high as $72, besides towage, which amounts to from $100 to $500 each way.

SAWING ON THE TRUCKEE.—At Jones' mill, on the Truckee, there were sawn in 11½ honrs, recently, 63,374 feet of lumber.

THE Petaluma Railroad is progressing steadily. The road is graded to within 11 miles of Santa Rosa.

CAPT. STONE has launched a little steamer on Tulare Lake.

GRAIN RAISING BEYOND THE SIERRA.—Statistics are given in the Susanville *Sage Brush*, estimating this years' grain crop of Lassen County at about 7,750,000 pounds, worth $155,000, which would pay an interest on the entire assessible property of the county of at least 25 per cent., or 50 per cent. of the real property alone; while not more than half of the realty of the county can be estimated as grain ranches. The *Sage Brush* adds: We may, then, easily calculate from these figures that each farmer has this year made from his grain alone, the assessed price of his ranch. It seems to us that the farmers themselves, as a class, are hardly aware of the amount of money they are making annually from grain.

CHEAP TELEGRAPHING.—The Western Union Telegraph Company are sending messages between San Francisco, Sacramento, Stockton and San José for 15 cents for the first 10 words, and five cents for each additional five words. The Atlantic and Pacific States Company have also lately reduced their rates to the same points doing business for 25 cents for the first 10 words, and 10 cents for each additional five words.

A MEXICAN POMPEII.—The inhabitants of Tuyahualco, District of Chalco, in Mexico, while quarrying recently, came suddenly upon a mysterious town, sepulchered amid volcanic lava, within which were found the houses and corpses of its former denizens, perfectly mummied. The volcano that produced this disaster must have completely disappeared at the time, burying beneath its ashes and lava all the ancient towns and occupants of its environs, whose existence is not mentioned in history.

NEW THEORY OF EARTHQUAKES.—The following notice was proclaimed, with beating of drums, by the magistrates in the little town of Jasseburg, in Hungary, on the 23d of August last: "Inasmuch as oaths and blasphemies are the true cause of earthquakes, everybody is forbidden to swear and blaspheme, under penalty of twenty-five stripes and a fine of thirty-five florins."

PACIFIC RAILROAD AND OAKLAND FERRY. The report that the Central Pacific or Western Pacific Railroad has acquired a controlling interest in the Oakland Ferry, is supported by the fact that one of the ferry boats is now used by railroad folks to transport rails to Sacramento, and thus to help hurry forward material for the work on the plains.

LADIES' VELOCIPEDE RACES are now announced in France. The French Empress, it is said, is very partial to this kind of exercise, and rides in the park and takes long excursions in the country on her mechanical steed.

Prof. Stoddard stated, at the recent meeting of the American Association at Chicago, that he had been witness of an accident in Indiana, where lightning was carried five miles on a telegraph wire without melting it, but shattering three posts.

GOLD mining speculations are multiplying in Nova Scotia. The Lieut. Governor of that province has just assented to the acts of incorporation of twenty-eight new companies.

THE exodus of miners and their families from Cornwall, England, continues, in consequence of the hard times.

THE Arizona *Miner* says working men are badly needed in Yavapa County, and will be for a long time.

MEUSSDORFFER,

HAT MANUFACTURER

And dealer in

Hats and Caps

AT WHOLESALE AND RETAIL.

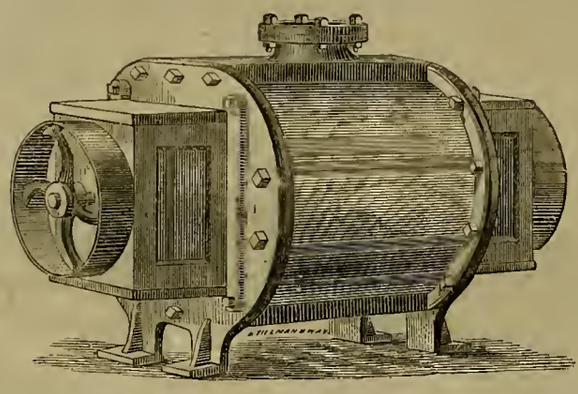
635 and 637 Commercial street.....San Francisco.
125 J street.....Sacramento.
Corner of D and Second streets.....Marysville.
72 Front street.....Portland, Oregon.

Our wholesale House, 628 Commercial street, extending through to 637 Clay street, San Francisco, contains always a most choice, and the largest, assortment in this State. Every Steamer brings the latest issued novelties from Europe and New York, which can be found at all the above stores, at moderate prices. 23v16-3m

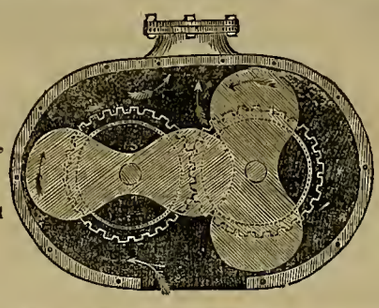
ROOT'S PATENT FORCE BLAST ROTARY BLOWER.

Patented Nov. 1st, 1864; July 24, 1866; and Oct. 9, 1866.

Awarded the First Premium at the Paris Exposition.



ADAPTED FOR Smelting, Foundry, Mining and Steamships.



REQUIRES Fifty Per Cent. LESS POWER Than any Blower Now in use.

One of these Blowers may be seen on exhibition at W. T. Garratt's Brass Foundry, corner of Mission and Fremont streets. They are also in use at the Almaden Quicksilver Mine; Gridley's Foundry, Gold Hill, Nevada; Ætna Iron Works, San Francisco, and many other places.

CAUTION.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.

For circulars and further information, address

KEEP & BARGION,
Globe Iron Works, Stockton, Cal.

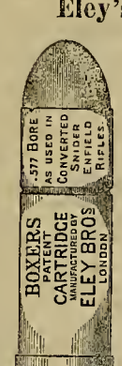
4v16 3m

Rails, Newel Posts,
AND BALUSTERS,
Constantly on hand for sale, and shipped, together with all kinds of
STAIR WORK,
To any part of the coast. Practical workmen sent, when desired, to put up the same.
Work Warranted to Fit
by simply sending a correct ground plan of stairs, together with hight of story.
Wood-Turning and Scroll Sawing of all kinds promptly executed.
☞ Spanish Cedar, Walnut and California Laurel always on hand for sale.



Langland & Cameron,
STAIR BUILDERS,
309 Market street,
And 435 and 437 Brannan street,
SAN FRANCISCO.
16v16-1y

Eley's Ammunition.



The Cartridges are made in three sizes, viz., .577 (or Snider Enfield) bore; .500 (or half inch) bore; and .451 (or small) bore
These Cartridges have been adopted, after careful comparative trials against all other descriptions, by HER MAJESTY'S WAR DEPARTMENT, as the Standard Rifle Ammunition for the BRITISH ARMY, and are not only used exclusively for the Snider Rifle, but are adapted to all other systems of military BREECH LOADING RIFLES.
They are the cheapest Cartridges known, carrying their own ignition, being made wholly of metal, are water-proof and imperishable in any climate.
Boxer Cartridge Cases (empty), of all sizes, packed with or without bullets, and machine for fastening same in Cartridges.
Makers of BOXER CARTRIDGES, .451 bore for Revolving Pistols, in use in Her Majesty's Navy.
PIN CARTRIDGES for Lefaucheux Revolvers of 12 M, 9 M, and 7 M, bore.
CENTRAL FIRE and PIN FIRE CARTRIDGES, for all sizes of Guns, Rifles and Revolvers.
Double Water-Proof and E. B. Caps. Wire Cartridges for killing game at long distances. Felt Waddings to improve the shooting of guns; and every description of Sporting and Military Ammunition.
Wholesale only.
ELEY BROTHERS,
18v16cowly Gray's Inn Road, London, W. C.

NOTICE.

On and after this date, all parties on the Pacific coast manufacturing, using, or selling

Dunbar's Patent Piston Packing,

must obtain a License for the same from the undersigned, or they will be subject to the penalties of the law.

H. S. SMITH,
Ætna Iron Works.
San Francisco, August 15th, 1868. 7v17-3m

HO TEAMSTERS!
CONTINUE TO
USE HUCKS & LAMBERT'S
CELEBRATED
H & L Axle Grease,
To which you have given so decided a preference for the last
FOURTEEN YEARS,
It is the only reliable article
IN THE MARKET

Every care will continue to be used to sustain the high reputation the H & L Axle Grease, has so long and justly attained.

☞ Be sure and ask for the H & L brand, and see that the
TRADE MARK H & L
IS ON THE COVER OF THE PACKAGE
NONE OTHER IS GENUINE.
FOR SALE IN EVERY STATE IN THE UNION.

POSTMASTERS are requested to punctually inform us of the removal of subscribers of the PRESS from their locality, or of neglect to take the paper out of the office from any cause—when the subscriber omits that duty himself. It is not our intention to send this journal to any party longer than it is desired. If we inadvertently do so, subscribers and others will please inform us.

Metallurgy.

KUSTEL & HOFMANN,

Metallurgists and Assayers.

Gold and Silver Bullion Assayed.

MINERAL ASSAYS & ANALYSIS MADE.

611 Commercial Street, San Francisco.

SILVER AND GOLD ORES worked in small lots up to hundred pounds, by Chlorination and other methods. 18v16-tf

JOHN TAYLOR & CO.

IMPORTERS,

AND DEALERS IN

ASSAYERS' MATERIALS,

Druggists' & Chemists' Glassware

Photographic Stock, Etc.

512 and 514 Washington Street,

SAN FRANCISCO.

WE are receiving direct from MESSRS. LANN & OERTLING (London) and BEEKER & SONS (Antwerp, Belgium) their superior

ASSAY AND BULLION BALANCES,

And from France and Germany, as well as the Eastern States, FURNACES, CRUCIBLES, MUFFLES, BLOW-PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, etc. We have given this branch of our business particular attention, to select such articles as are necessary in the development of the mineral wealth of this coast.
A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' SUNDRIES, ACIDS and CHEMICALS, constantly on hand.
San Francisco March 6, 1865. 11v10-tf

PROF. HENRY WURTZ,

Formerly Chemical Examiner in the U. S. Patent Office, may be employed professionally as a SCIENTIFIC EXPERT, Geological Examinations and Reports, Analysis and Assays, etc., etc. Practical advice and investigations in the Chemical Arts and Manufactures, Invention and examination of new chemical methods and products. Address, 26 Pine street, Rooms 35 and 36, New York. Always in from 12 to 3.30. ☞ Written communications preferred.

Important to Gold and Silver Miners and Companies.

PROFESSOR WURTZ,

Who is the Inventor and Patentee of the new and wonderful uses of SODIUM IN WORKING GOLD AND SILVER ORES AND JEWELERS' SWEEPINGS, will furnish at the above address information in relation thereto, together with experimental packages of

SODIUM AMALGAM.

All instructions and experiments elsewhere obtained are spurious and unreliable. WORKING EXPERIMENTS ON AMALGAMATION OF ORES, Etc. Prof. W. has in operation in New York a large and small Hepburn Pan, for working 1,000 or 20-lb. charges of material for experimental purposes. 3v17

G. W. STRONG,

ASSAYER AND WORKER OF ORES,

No. 10 Stevenson street, near First, San Francisco.

Highest price paid for choice lots of Ores, Sulphurets, Assay Ashes, Sweepings, etc., etc. Students instructed in all branches of Metallurgy, on liberal terms. 14v15qr.

THE GOLDEN ERA.

Founded in 1852, it is the oldest Weekly Paper in the State, permanently established, and more widely circulated at home and abroad than any other on the Pacific Coast. In California, the Atlantic States, and throughout the entire field of its great and rapidly increasing circulation, THE GOLDEN ERA is universally regarded as a Literary and Family journal of unequalled excellence. Among its contributors are all the best writers on this side of the Continent.

THE GOLDEN ERA

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THE OCCIDENTAL MINE at Virginia City, is reported to be one of the best mines in the country. The main tunnel is in about 900 feet, and connected with air shafts all through, so that it is a pleasnre for the miners to work; it furnishes enough rich ore to supply several mills. The company have commenced a tunnel 500 feet lower than the main tunnel, and intend to strike the ledge 1,100 feet below the upper works, and in this lower tunnel they are at work on an air shaft. They expect to reach the ledge in the lower tunnel by Christmas, and have three eight-hour shifts at work, day and night. The operations show very good management. They send 20 to 25 tons of ore every day to one mill, which pays for all expenses, they never having levied any assessments, notwithstanding their extensive operations. They are now sending their ore to Carpenter's mill at Dayton.

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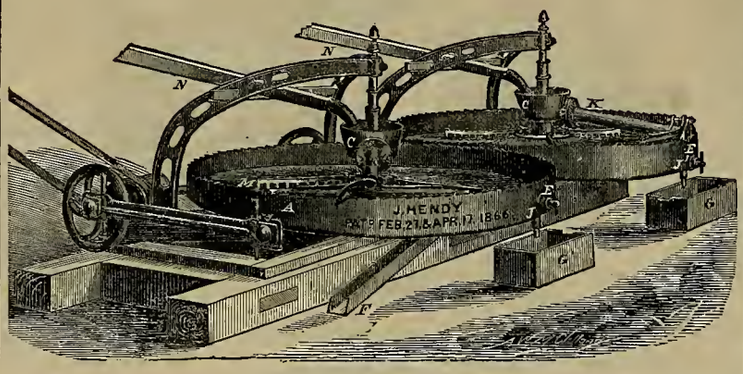
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THE MINING AND SCIENTIFIC PRESS has entered upon its XVIIIth Volume. It has donned a new-style hat; or, i newspaper parlance, a new heading, which gives it the solid, scientific look it merits. Other improvements typographical are also noticeable. No call for improvement in its matter.—*Amador Ledger, July 18th.*

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THE MINING AND SCIENTIFIC PRESS, which commenced its seventeenth volume on the 4th, comes to us with a newly engraved head, and presenting otherwise its usual tasteful appearance. We take this occasion to say that the Press is one of the best papers of the kind in the United States, and every miner and mechanic in the State, as well as the business man, who would keep posted on our industrial resources, should have its name on i subscription books. *Nevada Gazette.*

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BY DEWEY & CO., Patent Solicitors.

SAN FRANCISCO, SATURDAY, OCTOBER 31, 1868.

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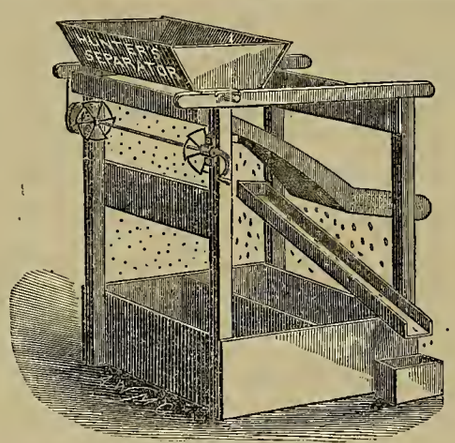
Status of the California Geological Survey.

This State is fortunate in one respect regarding the character of the men who have been laboring in connection with the late State Geological Survey. While the Legislature of 1867–8, more virtuous and more enlightened than any of its predecessors (?), cut off Prof. Whitney abruptly at a stage when he had advanced about $15,000 of his own money in order to prevent the work in his hands from languishing along in a one-sided manner,—leaving him without prospect of recovering a cent thereof, so far as the votes and intentions of many of the members were concerned,—we now learn that the results of the survey are, after all, not to be thrown to the dogs, and that Prof. Whitney, and perhaps one or two of his assistants, are imbued with ambition and self-confidence enough to have determined to finish everything up creditably at all hazards, and at their own expense. This is what might have been expected, provided the persons who have been so engaged had been all men of fortune, and able to afford years of labor for the benefit of a thankless State. Some of the departments probably, however, will not be worked up; but Prof. Whitney himself, as we understand, has never ceased his labors connected with the survey, so far as the publication of the results is concerned. Four volumes in continuation of the Reports are now being printed, or are already partially printed, together with a number of useful maps. There is a second volume on Geology, one on Tertiary Fossils, one on Economical Geology, if we are not misinformed, and one on Zoölogy. Private inducements have secured the interest of a New York publishing house, to take the matter in hand solely as a commercial enterprise. At any rate we are to have the Reports, so far as the work has been done. A new edition of the fine map embracing thirty miles around San Francisco, will be brought into the market shortly. In the meantime, Mr. C. F. Hoffman, C. E., is in charge of the collection and apparatus of the survey, by appointment of the Governor.

It takes 100,000 ounces of silver a day, as estimated, to supply the demand for that metal in manufactures and the arts.

Dry Concentration—Hunter's Grain Separator.

Sorting of the grain independently of specific gravity, is just the half of concentration, whether it is wet or dry. It is an essential preliminary operation to the successful working of ores with water, in order to get anything like a nice and clean result. But concentration, it must be remembered, is not peculiar to mining. Its principles are in extensive operation in a great many of the arts and trades, under many interesting variations of circumstances. In some of these, the demands of business and manufactures have developed as rigid and searching an inquiry, by inventors, into the physical properties of the matter to be treated, as the necessities of gold and silver mining have been causing, and are still urging, relative to the ores of the precious metals.



HUNTER'S PATENT GRAIN SEPARATOR.

Hunter's Separator is nothing more than a sorting machine; but it appears to be a very simple, and a very effective one. It is adapted to the separation and cleaning of grain after a certain stage, as it is found usually when brought to the mills. The principle is that of vertical percussion, against an arrangement of sieves, combined with automatic feeding. The crank and wheels in the illustration explain the operation sufficiently. It differs from all other machines of the kind in a vertical vibratory movement being used, in place of the horizontal motion in use. The upper end of the chute rests on a cross-bar adjustable by set screws—giving any required blow to the chute; the lower end rests on an iron rod, arranged to change the elevation. The machinery used is cam or ratchet wheels that strike against the bottom of the chute. For the separation of barley from wheat, the vibration is scarcely perceptible, whilst the chess screens receive a sufficient blow to move the wheat up off the screen, and prevent the meshes from clogging. The hopper is arranged with feed rollers, which regulate the quantity of feed and distribute the grain evenly on the screen.

Mr. Hunter received the First Premiums at the following Fairs, held in 1868 : the Mechanics' Fair, San Francisco; San Joaquin Agricultural Fair, Stockton; the State Agricultural Fair, Sacramento; and the Santa Clara Valley Fair, at San Jose. Since the above premiums were awarded, the inventor has improved and simplified the Separator, by using one chute in place of two, and has reduced the price to the same as that of an ordinary fanning mill, while the power required is claimed to be less than one-tenth, and cleaner wheat is guaranteed by running once through than through the ordinary fanning mill ten times —which is certainly claiming a good deal. Persons interested or desirous of knowing whether these claims can be substantiated, will find the inventor at his place of business, southeast corner of Market and Beale streets, San Francisco.

SAN FRANCISCO REAL ESTATE REVIEW.—Messrs. Turnbull & Smith, printers, of No. 516 Sacramento street, issue to-day the first number of the *San Francisco Real Estate Review*, a semi-monthly sheet to be devoted to the interests of buyers and sellers in real estate, which is creditably gotten up typographically, and ably edited by Mr. Stetson, a young graduate of Harvard. The *Real Estate Review* proposes, among other matters, to give a record of all real estate transactions, compiled from official sources; a brief review of the business of the current week, with such comments thereon as may seem judicious; the offerings of large or small tracts of land worthy of special notice; and from time to time to note the erection of any costly public or private buildings,—in short to give a compendium of all matters pertaining to real estate.

NEW GAS LAMP.—A new lamp, of French invention, is thus described: Coal gas, intimately mixed with air, is urged with gentle pressure along a tube, and made to pass through a metallic plate pierced full of minute holes. By this means a vast number of jets are obtained, which, after being driven through a fine tissue of platinum wire, are lighted in the ordinary way. The platinum soon requires a white heat, and gives out so brilliant a light that it cannot be supported by the naked eye. About one meter of gas is consumed per hour.

FAIR AT THE MERCANTILE LIBRARY.—That most excellent institution, the San Francisco Mercantile Library, is having its own Fair, which is characteristic of the place, and of the people who frequent it. We have never known of a similar public institution where the librarians and everybody connected, from the earliest times, were so invariably gentlemen of a high order, and where the air of the place so invariably left a pleasant impression upon both transient and habitual visitor. On the walls at the head of the stairs, just before entering the newspaper room, will be seen two pictures which are very appropriate to the place, and expressive of the intelligent sense of the managers of the institution: the group representing Columbus and his party on the beach of San Salvador, and the pioneer family in the Sierra Nevada, overlooking Sacramento valley. There is a great deal of history and meaning in those two paintings, that will speak to every passer-by. In the museum there is now to be seen the best collection of paintings that the San Francisco public have had an opportunity to study for many a year—contributed for the Fair by private owners. The Fair having been interrupted by the earthquake, is to be reöpened on Tuesday, Nov. 4th.

THE STATE UNIVERSITY.—The temporary building for the State University, five miles from Oakland, is under way, and will be finished this year, or early next year; and the permanent stone University building is to be commenced next year.

Another meeting of the Board of Regents will be held next Tuesday. Propositions before the Board are kept rather quiet, naturally, by an understanding to that effect amongst the members. We have heard of several names that have been under consideration for professorships. It is believed that the Board will not altogether ignore, in their appointments, the principle of recognizing the meritorious labors and contributions to science, of individuals who have for some time been identified with the development of this coast; especially in view of the fact that we have, unquestionably, in that unappreciated class, some of the most worthy and able scientific men in the United States.

COMPLETION OF THE HUNTER'S POINT DRY DOCK.—Numerous items have appeared in the city papers, announcing the progress, and finally this week the completion of this important piece of work at Hunter's Point, under the direction of the civil engineer, Mr. A. W. von Schimdt. The space was blasted out of solid rock, and the work is not merely a success, but it has made Hunter's Point a locality to go sight-seeing; excursion steamers running thither on Sundays. The Ajax and other vessels have been in the dock for repairs. Some difficult submarine blasting had to be done during the progress of the work.

MINNESOTA claims to be growing 60,000 in population a year, of which two-thirds is by immigration.

Communications.

In this Department we invite the free discussion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Metallic Deposits--Gold Nuggets--Theory as to their Formation.

BY DR. LANSZWEERT.

Editors Press:—Since my publication on the above subject, in the Mining and Scientific Press of August 8th, 1868, I observe that there has been a discussion on the same at a recent meeting of the American Association for the Advancement of Science, (an extract of which was published in your paper of October 3d), corroborating my views; and before proceeding with the able remarks of Mr. Cosmos Newberry at the meeting on April 3d, 1868, of the Royal Society of Victoria, New South Wales, I cannot pass unnoticed the following sweeping assertion of Prof. Silliman, against the igneous theory of the origin of metallic veins. Dr. Blaney asked the Professor if it was supposed that the brilliant iron and copper pyrites found in veins are precipitated from solution? Prof. Silliman replied in the affirmative, and "thought *no one* could show any evidence of igneous origin in metallic veins. He had been a disciple of the igneous school, was brought up on it; but his convictions had been changed after much toil in the field."

At a *seance* of the Academy of Sciences of Paris, May 23d, 1864, M. F. de Marigny, of Algiers, presented specimens of *galena* and *copper pyrites*, crystallized and obtained artificially by the following methods: Galena, by a mixture of 300 parts of litharge, 60 parts of iron pyrites, 5 to 6 parts of starch, which were placed in a crucible and covered with a layer of pulverized glass of borax, to preserve it during fusion from contact of air. The crucible, closed with its cover, was placed in a furnace adapted for copper assays. After half an hour's high temperature, the materials being in perfect fusion, the crucible was taken out of the fire and left to cool slowly. By this operation, galena with large and brilliant facets was obtained. To produce galena in fine grains, known as *grains d' acier*, the same mixture as above was used, and a difference of crystallization obtained by the sudden cooling of the fused materials in dipping the red hot buttons of the crucible into water.

By melting a mixture of litharge and iron pyrites, which were previously partially roasted, beautifully crystallized galena was obtained.

Peacock copper ore *(cuivre pyriteux panache)* was made by melting together 20 parts of iron pyrites, 45 parts of copper turnings, and 20 parts of sulphur, in small pieces; observing the same precautions as for galena.

From the results of these experiments, and the natural facts observed for centuries in mines, the object of M. Marigny's communication was to show, 1st, that the metalliferous beds *(gites)* owe their origin to the influence of high temperature emanating from vast subterranean fires; 2d, that the metals and metalloids are brought up in the state of gaseous emanations, which are principally condensed in *terrians anciens*, fissured by the upheavings of the plutonic rocks.

In connection with the above, does one not obtain pyromorphite or polychrome in melting in a porcelain crucible a mixture of 1 part of fused phosphate of soda and 7 parts of chloride of lead, cooling slowly the mass treated, and decanting the part still liquid from the crystals?

And of the Washoe excitement reminiscences, were those beautiful crystallized samples of the once famed Bailey ore, not due to igneous origin, as their aspect not only puzzled our scientists, but truly burnt the pockets of many San Franciscans?

The antimonial silver Bailey ore was obtained by melting 46.5 parts of sulphide of silver, with 22 parts of black sulphide of antimony, in a crucible covered with a layer of salt; the arsenical ore by melting 23 parts of sulphide of silver, and 7.5 parts of yellow sulphide of arsenic, or 40.5 parts of powdered silver, 12 parts of sulphur, and 9.4 parts of arsenic.

Leaving aside for the present the igneous theory, the following is an abstract of the arguments used against the denudation theory, and in favor of what seems to some a rather ludicrous idea—the growth of nuggets in the drifts (veins.) Prof. Bischoff, the eminent chemical geologist, remarks: "That some portion of the gold found in auriferous veins has been derived from the quartz lodes at the same time that the veins themselves were formed, there can be no doubt. But the very marked difference between much of the alluvial gold and the vein gold, tends to make us believe that this portion of it had some other origin, or was transferred from the *reefs* to the *drifts* by some means other than denudation. And when we consider that the nuggety gold consists of nearly the heaviest known matter, offering but a small surface of attack when compared to the other constituents of the veins, it appears strange that they should be found at a great distance from any known *reefs*, as nearly all the large nuggets have been. Some of them are found in the sand overlying the gravel, which is quite inexplicable—remembering their weight, and the otherwise regular arrangement of the deposit from the surface downwards—first clay, then sand, and fine and coarse gravel. These objections to the denudation theory are not easily explained away; added to which is the fact that gold is contained in the iron pyrites found in the veins, assuming the form of root and branches of trees, and also replacing and impregnating the carbonaceous matter of the drift wood. This proves that gold did exist in the meteoric waters which circulated through the veins and deposited iron pyrites at a comparatively recent date. Based upon these arguments, Mr. Selwyn advanced the hypothesis that nuggets may be formed (Mining and Scientific Press, Aug. 8, 1868), and that particles of gold may increase in size through the deposition of metallic gold from the meteoric waters percolating the veins, which waters, during the time of our extensive basaltic eruptions, must have been of a thermal and probably of a highly saline character, favorable to their carrying gold in solution."

As Mr. Ulrich points out, in his essay on the mineralogy of Victoria, this view of the character of the meteoric water in earlier times receives proof from the fact that, on the western gold fields only, where tremendous basaltic eruptions have taken place, all the large nuggets have been found; while on the eastern and northern fields, where basaltic rocks are wanting or of very limited extent, the gold is usually fine and nuggets above an ounce or two in weight very rare. That gold does exist in solution in some saline waters at the present day, has been proven by analysis, and Mr. Daintree, I believe, found gold in solution in water taken from a mine. Further proof of gold having been in solution at a comparatively recent date, I found when examining the pebbles of the miocene veins. These rounded quartz pebbles are often coated over and cemented together by brown iron ore, in which I found gold, while I never could discover any in the pebbles themselves. What that gold salt was, whether a chloride, silicate or sulphide, we have no means at present of ascertaining, and as it may have been in the same solution that deposits the pyrites which probably contained the iron in the form of proto-carbonate with sulphates, it was not easy at first to imagine any ordinary salt of gold existing in the same solution as a proto-salt of iron; but this I find can be accomplished with very dilute solutions, in the presence of an alkaline carbonate, and a large excess of carbonic acid, both of which are common constituents of mineral waters, especially in Victoria. This is true of chloride of gold, and if the sulphide is required in solution, it is only necessary to charge the solution with an excess of sulphureted hydrogen. In this manner both sulphides may be retained in the same solution, depositing gradually with the escape of the carbonic acid.

[To be continued.]

The young women of Paris are about to enjoy the privileges of the Sorbonne—a college for poor students, founded in the twelfth century by Robert de Sorbonne. Nearly three hundred ladies attend the lectures—a method of instruction admirably adapted for women.

Lecture on Chemical Geology.

[Delivered before the Fellows of the Chemical Society, London, February 20, 1868.]

BY DAVID FORBES, F.R.S., ETC.

[Continued from page 258.]

Many of the outbursts of plutonic rocks which, as described, had thus disturbed the sedimentary strata, are accompanied, at the same time, by mineral veins or lodes, which most frequently are found traversing the strata in the vicinity of such disturbances, and would, therefore, appear to be intimately connected with these outbursts or intrusions. The minerals contained in such lodes are also observed to vary according to the nature of the eruptive rock which appears to have caused their formation.

The solid matters injected into the strata and brought up by these eruptions, whether poured out over the land or into the water, would ultimately, by their disintegration and decomposition, yield up some of their constituents in a more or less soluble form, as part of the alkalies, lime, magnesia, etc. This process will explain how some portion, for example, of the lime requisite for keeping up the supply of that earth in the ocean for the assimilation of organisms, which continually abstract it from the same, can be accounted for.

In like manner, since these eruptions are considered to have had most features in common with volcanoes, it is inferred that they also would have been accompanied by great volumes of vapors and gases, amongst which, as in the case of the active volcanoes of the present day, the products of the oxidation of sulphur would have been prominent, and by their subsequent reactions assist in accounting for the large quantity of sulphates known to exist in the ocean.

Many deposits of sulphates, chlorides, and other compounds, such as gypsum, rock-salt, caruallite, etc., have no doubt resulted from the evaporation of lagoons or arms of the sea, cut off from the ocean by movements such as the elevation of the line of coast, etc.

The rocks formed on the solidification of the molten matter brought up by these outbursts or intrusions, which, as before mentioned, have disturbed the sedimentary beds from the oldest period up to the present day, possess a common general physical structure and arrangement, but otherwise are not all of one character, since they differ very considerably in *chemical* and mineral constitution, according to the geological epoch of their appearance in the crust of the earth.

Unfortunately, however, the attention of geologists has been but extremely little directed to this subject, and consequently trustworthy data as to the geological occurrence and mineral contents of such rocks are at present far from being sufficiently numerous or exact to allow of a decided conclusion being arrived at by their study. The result of a prolonged inquiry led me some time ago to announce the probability that—

1.—Eruptive or intrusive rocks of identical mineral constitution have made their appearance or intrusion into the earth's crust at similar geological epochs.

2.—That the minerals, or classes of minerals, accompanying or associated with such rocks may serve as a means of distinguishing the several eruptions in geological chronology.

3.—When the geological epochs of the appearance of two or more intrusive or eruptive rocks are known to differ, these rocks will then also be found to differ essentially in mineral constitution.

As far as I have yet been able to obtain trustworthy data, these views have been confirmed, but the evidence is as yet far too imperfect to put these forward as proved, although I indulge in the belief that further researches will show them to be correct.

The chemical analyses of eruptive rocks show, in the first place, that they may be divided into two general classes of acid and basic rocks; but when the geological age of the appearance of these rocks is inquired into, it is found that we encounter both acid and basic rocks which have made their appearance at all periods.

Just as in the oldest periods we find acid granites which correspond to the acid trachytes of the modern volcanoes, so in the oldest times also we find more basic norites, dolerites, etc., the equivalents of the more basic lavas and dolerites of the volcanoes of the present day; and although the facts collected are at present not sufficiently numerous to decide this point conclusively, it would appear probable that the acid eruptive rock characteristic of each geological period was accompanied by, or connected in some way with, the contemporaneous eruption also of a more basic rock equally characteristic of this same period.

Believing as I do that the origin of all these eruptive rocks may be ascribed to causes similar to those producing the active volcanoes now seen on our globe, it naturally brings us now to the consideration of such volcanic action.

As I have before explained, when considering the solidification of the globe, I contended that there then existed, and still exists in the interior of the earth, some great reservoir or reservoirs of fluid igneous matter, from which source all the igneous rocks, from the oldest to the most recent, have been derived, and I regard this probable for two reasons: first, because when the torrents of molten lava covering vast extents of country are seen issuing from a volcano, it is naturally inferred that it must come from some receptacle in the earth below; and, secondly, that as we know that considerable areas of the solid crust of our sphere have at times been depressed or sunk down to great depths, it appears equally natural to conclude that this could not have happened if the globe was entirely solid, and that there consequently must be some great hollow or chamber below filled either with gas or liquid matter, which, by its mobility, would make room for the mass thus depressed.

Whether, however, there may be only one or more reservoirs, and whether there may be, as some have imagined, two distinct reservoirs, containing respectively acid and basic, or trachytic and pyroxenic silicates, or whether both acid and basic silicates may not have been derived from the same source, I do not venture to decide; but I am inclined to believe that the sources of volcanic matter must have some intimate connection with one another, since it is known that volcanic rocks taken from any part of the world, no matter how far distant from one another, from Iceland or Terra del Fuego, from Ætna or Java, are identical in mineral and chemical constitution, and in their physical and optical properties.

That volcanic action is something more than the mere local outbursts which have been compared to insignificant pimples on the face of the globe, is proved by a mere glance at a map showing their geographical extent and distribution. The innumerable volcanic islands of the Pacific Ocean, for example, extending from longitude 80° W., some 50° of equatorial longitude further westwards to the coast of Asia, present one continuous scene of recent and present volcanic activity, extending in length over more than one-eighth of the equatorial or greatest circumference of the globe.

The hypothesis that volcanic, granitic, and other plutonic rocks, are all local products resulting from masses of ordinary sedimentary strata melted up by being depressed into the body of the earth, so as to come within the action of the earth's central heat, has to encounter the difficulty of explaining how these masses could be let down deep into the substance of a solid globe in which no vacuity is supposed to exist; then it is requisite to know why, if the earth's central heat at a certain depth is considered sufficient to melt up these strata when so depressed, the entire substance of the earth at that depth is not in a molten state. Both the chemist and geologist will also, I think, hesitate before believing that rocks which we know are of such definite and constant mineralogical and chemical constitution wherever they are encountered in nature, could be formed by the melting up of mere mechanical aggregates of rock *debris* whose composition is known to vary to the widest possible extremes.

Knowing, for example, that limestones, often in immense beds are found in all sedimentary formations, it appears difficult to imagine that a granite, felsite, or other plutonic rock, specially characterized by containing only traces of lime, but much alkali, could be formed by the depression and melting up of such strata. In like manner, it appears equally difficult to suppose a basic dolerite, containing but comparatively little silica, formed from the melting up of other formations specially characterized by an enormous thickness of sandstones and highly silicious beds. In practice it would be difficult to select any piece or portion of the sedimentary formation we are acquainted with on the earth's surface likely to possess a mean chemical surface composition which would, when melted together, give the percentage composition of a granite, diorite, dolerite, or other such rock.

[Concluded next week.]

Farms in Arkansas sell at from three to five cents an acre. A local paper says dirt is so cheap that "you have to look sharp, or they will smuggle an extra forty acres or so on you in making out the deed."

Mechanical.

The Jameson Process.

J. Jameson's process for making wrought iron blooms direct from the ore,—which was last year tested at the iron beds on the Ringgold estate in Pennsylvania, and demonstrated to be a success so complete as to warrant the supplanting of the old works by a new and complete establishment on a large scale,—is thus described by a correspondent of the *Pottsville Standard*, in a letter dated Sept. 10th :

The three furnaces, each with two fires, are constructed at a cost of about $1,200, and each are capable of producing ten tons of blooms per week. They are somewhat of an oven shape, having, however, a stack from the top of about twenty feet in hight. A refining fire is in front, into which the blast pipes enter on the side. The gas that is evolved from the fuel passes into a chamber, where combustion takes place, and thence the combustion of the gases continues till above the fifth chamber it passes (together with such deleterious qualities as have been taken up from the ore in its progress) through and out of the stack. The five chambers are called in the Jameson Patents the deoxidizing chambers. The ores are calcined, then crushed, and first placed in the top or fifth chamber. Into the first and second chambers a small jet of steam is injected whereby hydrogen is generated for the purpose of aiding in desulphurizing and dephosphorizing the ores. The floor of the top chamber is a table made of fire clay blocks, with an opening at the end opposite from the door or entrance through which the raw ore is thrown in. On this table the ore is spread out, and after being here subjected to the operation of the burning gases it is then pushed down through the opening at the end of the table opposite to the door on to a like table in the chamber below, where it is again spread out, and here it remains for a time and in like manner passes on to the table of the third chamber; there, after undergoing a like operation, it is passed to the second chamber, thence it goes to the bottom or first chamber. Thus every particle of the ore is equally operated upon. By this time the ore is almost a pulp, and then it is passed into the charcoal bed and refining chamber. Here the loop is soon formed, when it is taken out, and the hammer soon presents you with a bloom of from 225 to 250 pounds in weight. It is not claimed that to make wrought iron direct from the ore has anything new about it. Probably half the blooms made in America are thus produced. Generally, they are of an inferior quality, and involve a large expenditure of fuel and of ore. It is not so, however, with the blooms made by the Jameson process. It is claimed that a ton of blooms can be made by this process with about the same expenditure of fuel and ore that it requires to make a ton of pig metal in the blast furnace. The experience at Ringgold shows that 200 bushels of good charcoal and about 2½ tons of 50 per cent. ore will yield a ton of blooms. The production is stated to be unfailingly uniform. A company has been formed with a capital of $200,000, called the "Ringgold Iron Company." The works are now in full operation, and produce thirty tons of blooms per week.

To Coat Iron with Copper without a Battery. — The objects are first well cleaned, and then painted over with a solution of protochloride of tin, and immediately afterwards with an ammoniacal solution of sulphate of copper. The layer of copper thus produced adheres so firmly to the iron or steel that the different objects can be rubbed and polished with fine chalk without injuring the deposit. The tin solution is prepared with 1 part of crystallized chloride of tin, 2 parts of water, and 2 parts of hydrochloric acid. The copper solution, with 1 part sulphate of copper, 16 parts of water, and ammonia sufficient to re-dissolve the precipitate formed when it is added. Zinc and galvanized iron can be treated, directly by the copper solution, without using the tin salt. This process, due to Herr Graeger, is described in a recent number of Dr. Boettger's *Polytechnisches Notizblatt.*

An omnibus drawn by steam power, and carrying thirty-five persons, has been successfully tried on a common road in France.

Platinized Mirrors.—M. Dodé takes an ordinary plate of glass, and by a chemically mechanical operation coats it upon one side with an almost infinitely thin layer of platinum. By this plan he obtains a mirror with direct reflection, and which may also, curiously enough, be employed as a common window pane by turning the coated surface outside. A slight tinge is imparted to the objects beheld through this medium, but otherwise the vision is clear, and the outlines of the objects well defined. One of the distinguishing features characterizing the light transmitted by glasses platinized in the manner described, is its peculiar softness and tone. M. Leroux was the first to notice this particular attribute of the light, and stated that it might be turned to good service in shielding the vision when engaged in regarding any intense source of heat, such as the sun, smelting, or gas furnaces.—*Mechanics' Magazine.*

Interesting Test of a Steel Boiler.—The Pittsburg *Chronicle* gives an account of some experiments made August 23d and 25th, upon a steel boiler at the Fort Pitt Boiler Works in that city. It was a cylinder boiler without flues, and made entirely, even to the bolts, of No. 3 homogeneous steel, made at the Black Diamond Steel Works. The plates are full quarter inch thick, and the heads three-fourths inch; its length is five feet eight inches, and its diameter thirty-eight inches. The trial on the 23d was made in presence of the Government inspectors, and a large number of boilermakers, steamboat men, mechanics and others. A small hydraulic pump, the same as is used in testing iron boilers, was employed. Everything was in readiness when the hour fixed upon had arrived, the boiler had been heated, the pump attached, and the intention was to put on pressure enough to burst the boiler, if possible. As the gauge approached 600 pounds the gasket or leaden joint by which the man-hole is stopped, began to leak freely, and water also spurted in the form of spray from the seams, until it was found impossible to maintain the pressure. The circumference of the boiler was now found to have increased an inch and a quarter by the stretching of the plates. The leaks mentioned having been partially stopped, three more trials were made, thus more severely testing the boiler by their repetition. By the last of these a pressure of 665 pounds was reached without producing any further effect than to cause the boiler to swell still more, until it increased two and a half inches in circumference. There were no signs of the plates giving way at the rivet holes, where they are necessarily weaker than at any other part, the whole strain being thrown upon the part remaining between the holes. Heretofore no boiler has ever stood a greater pressure than 538 pounds, and that was a boiler expressly prepared for the test. On the 25th, the boiler was again tested by hydrostatic pressure, and on the tenth trial it withstood a pressure of *seven hundred and twenty-five pounds* to the square inch, when, in consequence of the giving way of one of the stay bolts, further experiments had to be abandoned for the present. As on the previous occasion a large number of manufacturers and others were present, and took great interest in the trial. The boiler stretched three-eighths of an inch during the last test, in all it has stretched two and seventh-eighths inches. Some think that had sufficient force been brought to bear on the first trial the boiler would have withstood a pressure of 1,200 pounds to the square inch. No boiler has ever before been known to withstand so high a pressure as the one tried on these occasions. The experiments are of the utmost importance.

Best Alloy for Engine Cocks, etc.—We extract the following from a paper upon metallic alloys contributed by Prof. H. Dussance to the *American Artisan:* The best alloy for the cocks of an engine is composed of copper 88, tin 8, zinc 4. Too much zinc diminishes its tenacity; but it is wrong not to add a small quantity; its affinity for copper is such that, as soon as introduced, it draws the molecules together and disengages from them a large quantity of scoria, which ascends to the surface, and which is removed before pouring. It is used also by the melter to ascertain the temperature of the melted metal, and is, moreover, useful to stir the bath, for being volatile it is disengaged all the time in bubbles.

Those parts of the engine subjected to friction, are composed of copper 81, tin 17, zinc 2. For the eccentrics the quantity of tin is diminished by 2 per cent., so as to avoid breaking. These alloys being rather dry and brittle, require a great precision in the adjustment.

Scientific Miscellany.

Denton on the Origin of Petroleum.

Prof. Denton says that petroleum is not a *coal* oil, but a *coral* oil. Among his arguments in support of this theory, are the following: It is rarely met with in a coal district. Not even a *smell* of it has Prof. D. perceived in any of the coal mines which he has visited. If it is from coal, it should never be found in rocks older than the coal measures. The contrary is true. "In this country nearly all the oil hitherto obtained has been from beds that lie below the coal measures, and sometimes at a great depth below them. On Oil Creek, in Pennsylvania, it is found by boring in shales and sandstones, sometimes to a depth of a thousand feet; those beds belonging to the Chemung group of the Devonian formation, and many hundred feet below the coal measures. At Enniskillen, in Canada West, where the oil has at one time come up in springs, and overflowed, leaving a thick bed of asphaltum covering the ground for an acre, the limestone in which borings are made contains characteristic fossils of the Hamilton group of the Devonian formation. The oil wells in Western Kentucky, and in some parts of Tennessee, are in the Trenton limestone,—that is, in the lower Silurian formation. The same oil floats on the surface of a limestone quarry near Chicago, the limestone belonging to the Niagara group of the Silurian formation; showing conclusively that it has no necessary connection with coal."

The immense quantity of free oil forbids the belief that it could have been produced from sea plants. It would require large subterranean lakes of it, to pour out the thousands of barrels which some wells have daily yielded. The sea-weeds of the Silurian and Devonian times contained so little bituminous matter that their impressions do not even darken the light-colored shales in which they are found.

Against the theory that it has been distilled from bituminous shales, may be said, that for this strong heat is required; and generally, where it is found in greatest abundance, there is the least appearance of igneous action.

Prof. D. has in his possession numerous specimens of fossil coral from Devonian and Silurian rocks, the honeycomb cells of which are filled with this oil. He has seen the same from different parts of the country. We quote a portion of his conclusion: "I have found it repeatedly in these corals, and in no other part of the rock, invariably accompanying the corals, and never connected with any other fossil; these corals frequently in the center of limestone blocks. Reefs of such coral would furnish oil in quantities sufficient to account for the immense deposits that have been discovered. Preserved by them in compact bodies, the oil taking up at least half the space of the coral reef, we can readily suppose, that when the cells were crushed by the superincumbent weight of rock, or during upheavals and subsidences, cavities and crevices in the earth's interior would be filled by it. It is, then, an animal production, and not a vegetable one."

Assimilation of Oxygen by Night and Day.—Dr. Pettenkoffer, of Munich, has exploded the doctrine that in sleep the lungs take up less oxygen than in waking hours. He finds that in sleep the lungs absorb twice as much oxygen by night as by day, and give off but 42 per cent. of carbonic acid against 58 per cent. by day. The excess of oxygen is, he says, stored up for use in daylight exercise.

More Meteorites.—The Museum of the Academy of Sciences in Philadelphia is now receiving eight large meteoric stones, weighing together 3,000 lbs., discovered in the Mexican mountains by Dr. H. B. Butcher, of that city.

Improved Polarizer.—The *Journal of the Franklin Institute* for September, has a letter from the Abbé Moigno, in which he describes the apparatus known as the polarizer of Nuremberg, as recently improved by M. Hempel. In its present form it consists of, 1st, a blackened glass, placed ordinarily horizontal, or more or less inclined at will, on which the incident ray is polarized by reflection. 2. A disk or ring, placed so as to support, on the path of the reflected polarized ray, the transparent plate which is to show the chromatic polarization. 3. A convex lens, which renders the ray, proceeding from the transparent plate, either parallel or convergent. 4. A new contrivance, which gives to the instrument an unexpected success, a parallel mirror of glass silvered on its exterior surface, fixed at such an angle, on a support, that it brings up to a vertical line the ray, doubly reflected and transmitted, and sends it into a Nicol's prism, which serves as an analyzer, and turns on an axis. Whatever be the action exerted by this second mirror, all we can say is, that the phenomena of chromatic polarization, seen in this new instrument, are presented with incomparable intensity, and sharpness of outline. For example, a model of a butterfly, formed of thin plates of selenite, of different thicknesses, presents by turning the analyzer, not only the two complementary colors red and green, orange and blue, yellow and violet, of well known polarizers, but all the shades of the spectrum, which succeed one another, with incredible clearness and brilliancy.

The Ocean Bottom off the Atlantic Coast.—L. F. Pourtales, of the U. S. Coast Survey, who dredged along the course of of the Gulf Stream, found the bottom for four or five miles northeasterly from Florida, made up of common coral sand with very scanty traces of life. The next area, from 90 to 300 fathoms, is a rocky floor made of a very hard limestone, derived from living shells. Life was abundant. The third area was the regular and common ocean bottom, from two hundred and fifty to 300 fathoms covered with the chalky remains of foraminifera. He also dredged the bottom of the ocean off the coast, and found, first, extending from the north of Florida to Montauk Point, near Block Island, R. I., a bottom of silicious sand, perhaps a hundred miles wide. Outside of it was a calcareous bottom, occupying the whole area south of Georgia. Between the two, off the Carolinas, is a limited deposit of green sand, containing the foraminifera.

Hydrogen as a Conductor of Sound.—Prof. Tyndall made use of the following experiment to illustrate the low conducting power of hydrogen for sound: A bell struck by clock-work was placed under the receiver of an air pump, and the air exhausted as perfectly as possible. By applying the ear close to the glass a faint sound could still be heard. The exhausted receiver was then filled with hydrogen, when the bell was again heard to sound, but faintly. On pumping out the hydrogen all trace of sound ceased, even when the ear was placed close to the receiver. Hydrogen being about fifteen times lighter than air, it might be supposed that its low conducting power arose from its tenuity. But such is not the case; the conducting power of air, rarefied fifteen fold, and therefore of the same density, exceeds that of hydrogen in a marked degree.

Flowers and Plants of the Rocky Mountains.—Over sixty different varieties have been described by Dr. Scovell in the vicinity of Central City, Colorado; seventeen of which were not heretofore described in the botanies. There are still, according to Dr. S., hundreds of new varieties to be described. The flowers of the Rocky Mountains are varied and beautiful. Almost every botanical family is represented. Some of the new species will have to be arranged under new genera and families.

Rheadine.—A new alkaloid has been discovered by Hesse, to which he gives the above name. It exists in opium and in the red poppy. It is soluble in alcohol, ether and water, crystallizing from the ether in white prisms. Bichloride of mercury gives a white amorphous precipitate, ammonia precipitates it in white crystalline flocculi, chloride of gold gives a yellow precipitate, and it is decomposed into gold by strong acids, giving a purple solution.

New Patents Issued to Pacific Coast Inventors.

Especially reported by the U. S. Patent Office, Washington, D. C., to DEWEY & Co., American and Foreign Patent Solicitors, and Publishers of the MINING AND SCIENTIFIC PRESS.

ISSUED FOR THE WEEK ENDING OCTOBER 6TH, 1868.

82,676.—IMPROVED NOZZLE FOR HOSE PIPE. Oscar J. Backus, San Francisco, Cal.:

I claim the combination with a nozzle, throwing a single stream of water, the sprinkler D, constructed and operated with the holes E, F, G, G, in the stop-cock and holes C, C, leading into the nozzle chamber, substautially as and for the purpose specified.

This is a neat little arrangement, more especially intended for irrigating hose, such as are in use about houses and gardens, where a sprinkler and a nozzle throwing a solid stream are used. In the ordinary nozzle there are at least two caps or eduction pipes, and they must of course he changed whenever a different jet is required. Aside from this trouble, their liability to loss is a frequent source of vexation, and a desire for something better has resulted in this invention. The pipe is constructed with the usual wide mouth and sprinkler cap which connects with a chamber in the enlarged part, and this chamber receives its supply of water through the holes at some distance apart which connect with the main pipe by means of similar holes in the key of the stop-cock. For the single jet, a pipe passes directly through the center of the sprinkler chamber and pierces the cap so as to just appear beyond the surface. This pipe connects with the main portion of the pipe by a single opening through the key made at right angles with the two first mentioned and between them so that when the single jet is opened, the sprinkler will be closed; and when the key is turned sufficiently to open the sprinkler the single jet will be closed. By turning a little further the cock will, by its peculiar construction, be entirely closed. The whole device is neat and presents an attractive appearance.

82,696.—IMPROVED LINIMENT FOR RHEUMATISM.—A. M. Dennen, Folsom City, Cal.:

I claim the medical compound, substantially as herein described.

82,726.—IMPROVEMENT IN CARRIAGE SPRING. Josiah R. Locke, San Francisco, Cal.:

1. I claim the box J, elastic packing or spring K, and the extension braces or rods L, L, attached to the side spring g, g, substantially as and for the purpose specified.

2. The combination of the side springs g, g, with the C-spring I, by the shackle connection H, the C-springs extending around the axle bed and attached to the reaches, substantially as described.

3. The springs E, E, crossing the upper ends of the springs g, g, and passing over the bolster and attached to the forward ends of the outside reaches, substantially as described.

This invention is one of the many which have been made during the last few years, all of which tend to improve the comfort and general appearance of buggies and carriages. Among the many arrangements and combinations of wood springs, this is deserving of notice. It consists of four side springs which cross each other, the front springs being attached to the carriage bed, back of the center, and the rear springs in front. The front springs are continued, so as to bend around the bolster, and fasten to reaches beneath. The rear springs were connected by shackles to C-springs on the rear axle bed. The middle reach is formed so as to receive a rubber spring just back of the bolster. Two rods are carried back diagonally from this spring, and are fastened to the rear end of the side springs, so that as the springs operate and tend to separate the axles, the rubber will be compressed, and acting in connection with the side springs, it forms a very easy riding carriage.

82,727.—IMPROVEMENT IN CARRIAGE SPRING. Josiah R. Locke, San Francisco, Cal.:

1. I claim in combination with the wood and steel springs A, A, the gooseneck springs D, D, constructed substantially as described.

2. The double acting springs F, F, and the slides E, E, in which the lower ends move, or equivalent device, the whole constructed to operate substantially as described.

This invention varies from the one just described in having a curved steel spring in combination with the wood in each of the side springs. The steel curves around the bolster in front and the rear axle bed, behind fastening below. Instead of crossing in this invention, a thin steel spring is fastened to the wooden portion and bent backward, forming a sort of gooseneck curve, the end being fastened to the body. Double-acting springs are attached to the body and curve, so as to extend down along the back of the wooden springs where they pass through a slide which allows them some motion, and when the carriage is heavily loaded, they relieve the main springs.

82,745.—IMPROVED QUICKSILVER FEEDER FOR QUARTZ MILLS.—John Pattison, Nevada, Cal.:

1. I claim the quicksilver fountain C, with the vertical pipe D and F, above and below the horizontal shaft, substantially as described.

2. The cup G′, in the horizontal shaft E, graduated by the set-screws G, or their equivalents, substantially as and for the purpose described.

3. Coupling the shaft E, together by the slotted ring H, and keys H,′ H,′ and operating the machine by the lever K, pawl K′, and toothed wheel J, the whole constructed and arranged to operate substantially as described.

This invention is designed to supersede the irregular method of feeding quicksilver by hand to the batteries in quartz mills, which practice is attended with unfavorable results, from the fact that too little may be fed, or too much,—either extreme entailing loss. The device consists of a fountain containing quicksilver, having a pipe or passage from the lower part, extending to the battery. A shaft passes directly across this passage, so as to close it entirely. This shaft has a chamber extending partly across its diameter, so that when the shaft turns, this chamber is brought into a position which allows it to fill with quicksilver from the pipe. As the shaft continues to turn, the chamber will be reversed, and thus empty its contents into the lower part of the pipe through which it passes to the battery, the passage remaining closed to all but what is contained in the chamber. The shaft may be revolved by a ratchet, and the size of the chamber varied to suit circumstances.

82,778.—IMPROVEMENT IN BUTTONS.—Frederick Wittram, San Francisco, Cal.:

1. I claim a button or stud having an opening in its fastening disk or plate, closed by a movable segment or piece, substantially as shown and described.

2. In combination therewith a closing or retaining spring, substantially as set forth.

82,787.—IMPROVEMENT IN PROPELLING APPARATUS.—E. S. Barnes, Nehraska City, Nehraska:

1. I claim the cogged sectors C, C′, in combination with the paddle D, when arranged and operated substantially as set forth.

2. The combination of the reversing sectors E, E′, and their operating lever E, when acting to operate the bar C, and their operating lever E, when acting to operate the bar C, and rack c, for feathering the paddles at either end of stroke and reserving the same substantially as set forth.

82,790. — IMPROVEMENT IN BUSHING FOR WHEELS.—Thomas Blake, Stockton, Cal.:

I claim the bushing C, provided with the cylindrical bore D, and having its external surface polygonal as and for the purpose described.

82,859.—IMPROVEMENT IN PREVENTING INCRUSTATION IN STEAM BOILERS.—Hugh McQuaid, Canyon City, Oregon:

I claim the application in steam boilers of an amalgamated surface to the parts, liable to incrustation, the iron plated with copper being coated with quicksilver, and being a liquid, on the surface of the copper expands as herein set forth, rising for that purpose, the aforesaid metals or any other substantially the same, which will produce the intended effect.

82,896.—IMPROVEMENT IN GRAIN HARVESTERS.—Medders Vanderpool, Polk County, Oregon:

1. I claim the arrangement of the spiral screw A, with the right head-board of the concave 20, whereby the standing grain is conducted to said head-board without being pulled from the ground, as herein shown and described

2. The combination of the obliquely ribbed drums O, ribbed concaves 20, and spiked drums 2, 2, substantially as described and for the purpose specified.

3. So constructing and arranging the rod D, D, provided with tapering spurs that the standing straw is forced to the rear to deposit the threshed grain upon the bed x, before said straw is drawn out of the machine, substantially as herein shown and described.

4. The combination of the ribbed drum O, O, spurred wheels 2, 2, ribbed concaves 20, and troughs 40, substantially as described for the purpose specified.

ISSUED FOR THE WEEK ENDING OCTOBER 13TH, 1868.

82,963. — IMPROVEMENT IN AGRICULTURAL LOCOMOTIVE WITH SPADING APPARATUS: Conrad Locher, Oroville, Cal.:

1. I claim the application of equalizing gears between the axles of a wagon, so that in turning a curve each wheel adopts the speed which the curve requires, and receive their propelling motion from the engines, by means of gearing or its equivalent.

2. The gearing and connection through the king bolts.

3. The spaders so constructed that they enter the soil like a pick, (nearly vertical) cut off a slice like a spade, and turn it over like a plow.

4. Turning the spaders in the same direction as the wagon, thereby assisting locomotion.

5. I claim the combination of the whole in the way and manner herein set forth.

82,966.—IMPROVED CAR COUPLING.—Samuel Madden, Eureka South, Cal.:

I claim the above described combination and arrangement of devices to form an automatic car coupling, consisting of the sliding bumper E, with the slots G and G′, opening J, and spring F, the pin I, with collars H and H′, and the guiding plate K, with or without the rollers D, at the end of the link, substantially as specified.

The frequency of fatal accidents which occur in coupling and uncoupling railroad cars, has led to the invention of many self-couplers, and the present is one of the devices for that purpose. It consists of the ordinary bumper, which holds the link, and through which the pin passes. Above this is a secondary sliding bumper, which is kept forward by a spring. The coupling pin passes through a stationary support above the sliding bumper and down through slots in the same. The pin has a shoulder, which when it is raised, rests on the edges of the slot at the top of the sliding bumper, and is thus held up. When two cars come together, the link from one car enters the mouth of the stationary bumper, and the contact of the two cars presses the sliding bumper back till it has reached a point which allows the shoulder on the pin to drop through an enlarged space at the end of the slot, and the lower end of the pin is thus allowed to pass through the link holding it fast. In a later improvement, a small recess or projection in the lower part of the sliding bumper catches the shoulder on the pin, and prevents the bumper from moving forward again till the pin is withdrawn.

83,123. — IMPROVEMENT IN PISTON ROD PACKING.—Orrin Collier, Sacramento, Cal., assignor to Self & Erva B. Silliman, of same place.

1. I claim the metal rings *a*, and *b*, as constructed, so that they both have about the same amount of surface bearing against the rod, and both about the same amount of surface bearing against the face of the gland, whereby the two shall wear equally, substantially as described.

2. The construction of the packing with reference to the stuffing box, whereby a free space is left around the rings so as to allow them to move freely with the rod if it should not work perfectly true.

This invention is designed to give a simple and efficient packing for piston rods, or propeller shafts, the packing being acted on by the vapor, air, water, or other pressure. The stuffing box is formed in the ordinary manner, with the exception, that instead of entering the cage, the body of the glands projects outward, supports the rod, and at the same time carries an oil cup. Within the cage are three or more cylindrical segments fitting around the shaft or piston, and having another series surrounding them and breaking joints, the whole being kept in position by an elastic ring or band. The segments are faced to fit the inner end of the gland perfectly tight, and are kept in position when not under pressure by a spiral spring within the cage. Two small openings connect the interior of the cage with the source of pressure, as the cylinder in an engine or pump, so that the greater the pressure, the closer the rings are forced against the rod and inner face of the gland.

CONTINENTAL Life Insurance Company, 302 Montgomery street, corner of Pine.

TARRED AND UNTARRED ROPE.—It is only when rope is to be subjected to frequent changes from wet to dry, that its durability is increased by tarring. It is really weakened by the process. In the experiments of M. Du Hamel, at Rochefort (France), in 1741, it was found that an inch rope of the best Riga hemp in its ordinary or white condition broke with a weight of 4,500 pounds, while a tarred rope of the same size and character gave way to a strain of only 3,400 pounds. From numerous tests made by the same experimenter it was decided that the white or untarred cordage when in continual service, under circumstances where it was not subject to moisture, would last one-third longer than the tarred, and that its strength diminished much less rapidly when stored in magazines or storehouses.

AN OREGON PATENT WASHING MACHINE. The *Oregonian* speaks of the advantages of a new washing machine invented and patented by Mr. Dixon, of Forest Grove, as follows: "In the first place, it is cheaper by a considerable than any of the other machines—costing only $18, while the "Economy," for instance, costs about $40. Its cheapness places it within the reach of almost every family, however poor. It works somewhat on the plan of the "Economy;" but the double head to which the levers are attached, is a skeleton which allows the water to pass through, thus avoiding its resisting force, and rendering the working of the levers much easier. One of the best evidences of the value of the machine is the fact that the inventor, who was a poor man, has already sold rights enough to place him in comparatively independent circumstances."

A WRECKING COMPANY, consisting of a number of well trained wreckers, under the direction of skilled and experienced men, is suggested by the *Bulletin*, for the purpose of promptly coming to the rescue and saving of unfortunate vessels like the Brignardello, Viscata, Autocrat, and Oliver Cutts; by the wrecking of which $250,000 to $300,000 was lost to the commerce of the port.

NEW INCORPORATIONS.—Articles of incorporation have been recently filed in the County Clerk's office in this city as follows:

PACIFIC DREDGING COMPANY.—Oct. 28th. San Francisco. Capital stock, $600,000; 6,000 shares, $100 each. Trustees: Lloyd Tevis, Charles J. Brenham and James Pollock.

PACIFIC PROTECTIVE ASSOCIATION.—Oct. 28th. San Francisco. Capital stock, not stated. Trustees: Benj. F. Freeman, Geo. H. Russell, Samuel A. Raymond, Wright Leroy and James A. Pritchard.

"THE SPIRITUAL LIGHT" is the name of a new monthly paper just started in this city, the title of which indicates its specialty. Its editor and publisher, Geo. G. W. Morgan, recently from Washington City, we judge from personal acquaintance to be a gentleman of candor and intellectual attainments.

THE LATEST NOVELTY.—Mr. Woodward has fitted up a large circular boat 150 feet in circumference for the use of visitors to his gardens. It accommodates about 100 persons at a time, is propelled both by oars and self-adjusting sails, and moves around the circuit "like a thing of life."

MANY YEARS AGO the writer of this notice and an invalid physician, while visiting the Island of St. Croix for their health, experienced and witnessed many surprising and beneficial effects of the rum there produced upon many of the invalids, who were, like ourselves, seeking health, and upon inquiry and investigation, obtained a full history of its medicinal virtues. He was delighted and surprised, and determined to make it the basis of a *Tonic and Restorative Medicine*. The result of his labors was a glorious success for himself and suffering humanity, for the celebrated PLANTATION BITTERS was thus made known to the world, being an article of real merit founded on new principles, and relying wholly upon the vegetable world for its medicinal effects, worked a rapid revolution in the history of medicine. *

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board.

SAN FRANCISCO, October 31, 1868.

Financial.

Our local money market is characterized at present by considerable stringency. The requirements have been large for legitimate purposes, and the storage of so great an amount of grain has kept foreign capital out of our market, which was not the case at this date last year. Rates are 1@1½ per cent. per month; exceptional transactions at 1½ per cent.

The steamer Sacramento, which sailed for Panama on the 22d of October, took away another half million of dollars on Government account, making no less than $8,000,000 shipped by the Sub-Treasurer, so far this year, being $2,300,000 more than was shipped by that officer in all of 1867.

September returns from the parent mint in Philadelphia give the following exhibit: Gold coinage, $79,010; silver coinage, five bars, $187; nickel, $75,250; copper, $10,800—total, $165,248 in round numbers. The coinage of the San Francisco Branch Mint for the same month was $2,455,000, all in gold and silver; making a difference in value of $2,289,752 in favor of the San Francisco establishment. This comparison holds good with any other month in the year, and one year after another; yet the building in which all this valuable and important work is done in this city is a miserable old barrack—cramped, without even ordinary ventilation, and hardly fit for a storehouse, while the Philadelphia concern is almost palatial and perfect in all its appointments. From this coast is procured the great mass of gold and silver, to the regular receipt of which the whole country is indebted for its financial prosperity. Whatever Congress concedes to this portion of the Union is given most grudgingly; but whatever tends to build up and extend the interests of Eastern cities is bestowed with lavish hand. Even our harbor is suffered to remain obstructed with dangerous rocks which could be removed with little expense compared to the benefit their destruction would entail. Party politics would have granted a large sum for erecting a Branch Mint at the Dalles, where probably not over $40,000 worth of bullion can be raked together in a year; but when an appropriation is asked for the real and pressing requirements of this coast our representatives plead in vain. The time is not far distant when our increased population will entitle us to a proportionably increased representation in the halls of Congress, and when the great commercial importance of the Pacific States will compel Eastern members to do us justice.

City Stocks.

We report a somewhat improved market for miscellaneous stocks; however, the sales in the open market cannot be taken as a criterion for the extent of the transactions in these securities. Reported sales in the Board have been as follows during the past week: 200 shares Spring Valley Water, $66@65 50; 30 shares Pacific Insurance, $124; San Francisco Gas, $77@76; 40 shares North Beach and Mission Railroad, $69 per share.

The Pacific Bank will disburse its usual monthly dividend on the 12th November. The first annual meeting of the stockholders of the Peoples' Insurance Co. is announced to be held on the afternoon of the 3d of November.

The morning open session, by action of the Board, has been discontinued from and after the 28th instant, the regular sessions continuing as heretofore.

Mining Share Market.

The mining share market, since Saturday last, has been apathetic and less firm, so far as a few leading shares were concerned, but other stocks were quite active, and for the most part well sustained. The number of stocks which changed hands was greater than the previous week, but the aggregate sales were not so large if we take into consideration the interruption of business generally by the earthquake on the 21st instant. The bulk of the transactions are at present made by the "insiders," while the "outsiders" are less disposed to enter the market, the attention of the latter being somewhat diverted by the nearness of the Presidential election. At the close a general decline took place.

IMPERIAL—opened at $113, declined to $107, rose to $115, and closed at $101. The Imperial-Empire shaft has attained a depth of 125 feet below the 900 level. In the main drift from the 900 level, they have passed through the clay, the face of the drift being in decomposed quartz and porphyry. The drift out of winze from the 750 level of the Alta mine has been carried 60 feet westward, and is now west of the point where they had ore on the 700 level. This drift is in barren quartz. At present they hoist about 145 tons of ore per day. The receipts of bullion to the 27th instant for the current month foot up $29,567, against $34,390 same time in September.

SAVAGE—has been remarkably active, and this remark may be applied to transactions for a month past. The sales during the period under review will aggregate nearly 10,000 shares, gradually declining from $93 on last Saturday to $74 yesterday morning, and closing in the afternoon at $74 50. For reasons heretofore stated we are precluded from giving information concerning the present condition of the mine.

HALE & NORCROSS—sold at $48 50@45, then at $46 50, and closed at $45. The timbers for the fourth station—930 feet, new shaft—which corresponds with the seventh station of the Savage mine, were set on the 26th of October, and it is thought they will soon commence drifting. No new developments in other portions of the mine.

CROWN POINT—declined from $46 25 to $44, and closed at $43. By advices to the 28th we learn that fifty feet above the 900 level track floor, the drift had been carried north 28 feet from the south winze, and is said to have from four to five feet of mill ore in its face. The cross-cut in the winze developed about seven feet of fair ore, but in drifting north or south from it the pay streak grows narrower. The floor directly above, where the cross-cut was made, shows some six feet of ore, but on going south from this point grows poorer; while on the other hand, the drift north is reported to show decided improvement in quality if not in quantity. From the South winze they have gone forty-two feet south, running in fair looking quartz, but have not as yet found any pay ore. The shaft is twenty-one feet in depth below the 1,000 level, carrying hard blasting rock. About $20,000 in bullion has been received so far for October account.

KENTUCK—receded from $282 50 to $270, and closed at $263. The receipts for October account to the 26th foot up $45,368.....GOLD HILL QUARTZ was in the market at $55@50. On the 26th instant, $1,964 70 were sent forward.

GOULD & CURRY—sold at $95@89. The Bonner shaft is now 1,136 feet in depth. The clay in which they work is very troublesome, but latterly some porphyry has made its appearance in the southwest corner of the shaft, which, if it continues, will make it favorable to start a drift.

CHOLLAR-POTOSI—declined from $149 to $139, and closed at $136 50. During the week ending on the 23d of October, 1,162 tons of ore were extracted, all coming from the new Blue Wing stope and the croppings above it. The northeast drift is 328 feet in length and the incline 382 feet; face of drift in hard porphyry.....OPHIR ruled at $20@19. The new shaft has attained a depth of 510 feet.

OVERMAN—sold very regularly during the past week, ranging from $78 to $82 50, yesterday morning declining to $76, and closing at $71 50. The stopes in the different levels are reported to look well. They employ three reduction mills. On the 27th of October $6,792 in bullion was dispatched to the office in this city.

ALPHA—declined from $44 50 to $39 per share. Latest advices state that the east drift from the 940 level continues in dark porphyry, containing many threads of white quartz. No change in the south drift or cross-cut, the ground being hard in all the drifts.

AMADOR—came into the market more freely than for a long time past, dropping from $230 to $195, improving to $210, and closing at $207. The condition of this mine is reported to be as heretofore, the decline being the result of sharp "operations."

Reports from what is known as the White Pine district indicate an almost fabulous extent of mineral wealth in that region. It is located one hundred and thirty miles south of Austin, Nevada, and is represented to be very elevated, something like four or five thousand feet above the level of the sea. We have been informed by an intelligent gentleman and practical miner, just from Austin, that a day or two before he left, two wagons arrived from White Pine, loaded with bullion. One contained twenty-three bars of silver averaging eleven hundred ounces each bar, and the other had six thousand pounds of silver bullion. The leading mines at present are the Keystone, Eberhardt, and another, the name of which escaped his memory. These are located at Treasure Hill, where the ore is found in a limestone deposit. Our informant saw one piece of ore weighing eighty pounds, which yielded $800 worth of silver. Upon being struck with a hammer the face of the ore was indented precisely as if the blow had been given to a bar of silver. Sixteen hundred pounds of ore returned $4 to the pound, equal to $6,400 for the sixteen hundred pounds. There were over fifteen hundred men at White Pine, but many of them were returning to pass the winter, which is reported to be very severe in that place. Provisions and all sorts of accommodations were difficult to be had, but he feels certain that there will be a rush that way in the spring. Since obtaining the above information, we have received the Virginia *Enterprise*, which gives the following corroboratory intelligence:

Judge Pitzer, who has for some time been out in White Pine preaching democracy, returned to this city day before yesterday. He says the mines of that region are the richest he has ever seen—ten times as rich as was the Comstock lead in its best days. His idea of the deposit in that district is that it resembles a bed of coal, as, for the distance of a mile in length by over half a mile in width no shaft has been sunk but has penetrated the rich ore. Towards the top of the hill upon which the mines are situated the cap of limestone overlying the ore is quite thin, but in descending shafts must be sunk to a much greater depth to reach the ore deposit. The depth of the deposit is unknown. The ore rapidly increases in richness in sinking into the vein, and in the deepest shaft it is so rich and tough that it is very hard to sink in it. A pick leaves a hole in the ore such as would be left in a mass of lead by a blow with the same tool. There can hardly be found in the lead any kind of ore that is worth less than $500 per ton; in fact, the whole deposit is "fearfully and wonderfully" rich. The Judge thinks the stories of the coldness of the winters in the district exaggerations. As cattle live through the winter without barn feed within two miles of the mines, he is satisfied that it is little if any colder than here.

As hardly any freight can be got over the Central Pacific Railroad, the Nevada and Grass Valley merchants are ordering by way of Marysville.

THE Oakland *News* says a considerable part of the real estate of that city is held by women.

THE best place to get every different variety of spectacles found in the market is at C. Muller's, 205 Montgomery street. *

Delays are Dangerous.—Inventors on the Pacific Coast should bear in mind that by patronizing our Patent Agency they can sign all necessary papers for securing patents almost immediately, thereby avoiding the three month's delay requisite in transacting business through Eastern agencies.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE.
Alameda Coal, Sept. 17, 50c..	Oct. 27	Nov. 16
Amador Co., dividend, $5 per share....	Payable Oct. 20, 1868	
Bullion, Aug. 19, $10....	Payable Immediately	
Bacon, Storey co., Nev., div....	Payable June 19, 1868	
Belcher, Storey co., Nev., Oct. 6, $25....	Nov. 6	Dec. 8
Belcher, Storey co., Nev	Meeting, Nov. 2	
Badger Hill & C. C. Co....	Meeting, Nov. 7	
Cherokee Flat, Butte co., Oct. 20, $5....	Nov. 23	Dec 9
Confidence, Storey co., Nev....	Annual Meeting Nov. 13	
Cordillera, Mex., Oct. 16, $1....	Nov. 18	Dec. 7
Chollar Potosi, div., $25....	Payable Oct. 15, 1867	
Crown Point, dividend, $7.50....	Payable Sept. 12, 1863	
Diamond cop., Del Norte co., Oct. 28, $2....	Nov. 10	Dec 28*
Fogus, Amador co., Oct. 23, $2.50....	Nov. 24	Dec. 12*
Empire, Nevada co....	Annual Meeting, Nov. 2	
Empire M. & M., Nev., dividend $6....	Payable May 15, 1867	
Eureka, div., $5....	Payable Oct. 22, 1863	
Gould & Curry, div., $7.50....	Payable May 15, 1867	
Gold Hill Q. M. & M.—dividend, $7 50....	Payable July 13, 1868	
Golden Rule, Tuolumne co., div 50c ₱ sh....	Payable Aug. 23*	
Great Central, Arizona, Oct. 9, $2.50....	Nov. 11	Dec. 30*
Gold Hill Tun., Storey co., Nev. Oct. 9, $2..	Nov. 18	Dec. 9*
Glenwood Mill, El Dorado co., Oct. 10, $50..	Nov. 20	Dec. 9*
Hope Gravel, Nevada co., Oct. 5, $1....	Nov 10	Nov. 20*
Hale & Norcross, div. $125....	Sept. 16	1867
Hale & Norcross, Virginia, Oct. 12, $10....	Nov. 14	Dec. 5
Imperial, Storey co., Nev., div....	Payable June 20, 1868	
Julia, Storey co., Nev., Oct. 22, $1.50....	Nov. 25	Dec. 14
Kentuck, div., $20 per share....	Payable Oct. 10, 1868	
Kearsarge, Inyo co., Sept. 18, $1....	Oct. 22	Nov. 10*
Morning Star, Alpine co., Sept. 25, $2.50....	Nov. 2	Nov. 23
North Star....	Meeting Oct 31	
North Star, dividend, $5....	Payable Aug. 15, 1868	
Nevada County M. Co., $1....	Nov. 18	Dec. 19*
Providence, Nevada co., Sept. 11, $2....	Oct. 17	Nov. 5*
Pacific Unassessable, div....	Payable June 18, 1868	
Pacific Coal, Sept. 19, $12.50....	Oct. 29	Nov. 18
Rising Star, Idaho....	Meeting, Nov. 2	
Rattlesnake, Yuba co., Oct. 13, $2....	Nov. 18	Dec. 7*
Rising Star, Idaho, Sept. 11, $7.50....	Oct. 24	Nov. 25
Ripon, Alpine co., Oct. 15, $1....	Nov. 19	Dec. 8*
Savage, Virginia, Nev, dividend, $5	Payable Oct. 10, 1868	
Sierra Nev., Storey co., Nev., Sept. 25, $10..	Oct. 27	Nov. 14
Santiago, Silver city, dividend....	Payable Sept. 10, 1868	
Sand Spring Salt, dividend $1....	Payable June 5, 1868	
United States, $1....	Sale Nov. 18	
Virginia & G. H. Water Co....	Dividend, payable May 15	
Washington, Nevada County....	Annual Meeting, Nov. 3*	
Yellow Jacket, div., $15....	Payable July 10, 1867	

Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD.

FRIDAY EVENING, Oct. 30, 1868.

	Bid.	Askd.
MISCELLANEOUS STOCKS.		
United States Bonds, 5 20s	$ 80	82
Legal Tender Notes	73½	74
California State Bonds, 7s, 1857	95	95
San Francisco Bonds, 10s, 1851	par & Int.	
San Francisco City Bonds, 6s, 1855		
San Francisco School Bonds, 10s, 1860	100	—
San Francisco School Bonds, 10s, 1861	par & Int.	
San Francisco City and County Bonds, 6s, 1858	85	90
San Francisco City and Co. Schl Bds, 7s, 1866	90	—
San Francisco City and Co. Bonds, 7s, 1862	90	91
San Francisco City and Co. Bonds, 7s, 1864	90	—
San Francisco City and Co. Bonds, 7s, 1865	90	—
San Francisco City and Co. Judg. Bds. 7s, 1863	90	—
San Francisco City and Co. Judg. Bds, 7s, 1864	90	—
Sacramento City Bonds	23	25
Sacramento County Bonds, 6s	70	73
Marysville Bonds, 10s	75	80
Stockton City Bonds	60	70
Yuba County Bonds, 8s	77	78
Santa Clara County Bonds, 7s	75	77
Butte County Bonds, 10s, 1860	70	75
San Mateo County Bonds, 7s	75	80
California Steam Navigation Co.	60	65
Spring Valley Water Co	65¾	66
State Telegraph Co.	25	29
GAS COMPANIES.		
San Francisco Gas Co	75	77½
Sacramento Gas Co.	—	75
RAILROADS.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	70	—
Central Railroad	55	58
North Beach and Mission Railroad	71	71
Front Street, Mission and Ocean Railroad	17	21
BANKING INSTITUTIONS.		
California, Loan and Savings Society	—	—
Pacific Bank	97½	100
The Bank of California	157	158
INSURANCE COMPANIES.		
Firemans' Fund Insurance Co.	92½	94
Pacific Insurance Co.	123	125
San Francisco Insurance Co.	—	105
Merchants' Mutual Marine Insurance Co.	500	525
California Insurance Co.	1300	1400
Union Insurance Co.	92	93
California Home Insurance Co.	19	—
Home Mutual Insurance Co.	19½	20
Occidental Insurance Co.	72	—
National Insurance Co.	72	—
Builders' Insurance Co.	—	—
MINING STOCKS—WASHOE DISTRICT.		
Alpha	39	40
Baltimore American	—	—
Belcher	127	130
Bullion, G. H.	—	—
Crown Point	43	43½
Confidence	29	29
Chollar-Potosi	135½	137
Daney	4	6
Exchequer	14	14½
Empire Mill and Mining Co.	105	109
Gould & Curry	86	90
Gold Hill Quartz	40	50
Hale & Norcross	44½	45
Imperial	101	102
Kentuck	263	265
Lady Bryan	8	8½
Ophir	19	20
Overman	71	72
Savage	74½	75
Sierra Nevada	29	30
Yellow Jacket	1410	1415
Golden Rule, California	7	13

San Francisco Market Rates.

Wholesale Prices.

FRIDAY, Oct. 30, 1868.

Flour, Extra, ₱ bbl	$6 75	@$6 25
Do. Superfine	5 00	@ 5 25
Corn Meal, ₱ 100 lbs	3 25	@ 3 50
Wheat, ₱ 100 lbs	1 50	@ 1 86
Oats, ₱ 100 lbs	1 65	@ 2 05
Barley, ₱ 100 lbs	2 00	@ 2 25
Beans, ₱ 100 lbs	3 00	@ 4 00
Potatoes, ₱ 100 lbs	1 00	@ 1 25
Hay, ₱ ton	10 00	@15 00
Live Oak Wood, ₱ cord	9 00	@10 00
Beef, extra, dressed, ₱ lb	8	@ 10
Sheep, on foot	3 00	@ 3 25
Hogs, on foot, ₱ lb	4½	@ 5
Hogs, dressed, ₱ lb	8	@ 9

GROCERIES, ETC.

Sugar, crushed, ₱ lb	—	@	15¼
Do. China	10	@	11½
Coffee, Costa Rica, ₱ lb	16	@	16½
Do. Rio	—	@	17½
Tea, Japan, ₱ lb	75	@	90
Do Green	60	@	1 25
Hawaiian Rice, ₱ lb	—	@	10
China Rice, ₱ lb	6	@	6¾
Coal Oil, ₱ gallon	35	@	40
Candles, ₱ lb	15	@	17
Ranch Butter, ₱ lb	50	@	65
Isthmus Butter, ₱ lb	30	@	39
Cheese, California, ₱ lb	15	@	20
Eggs, ₱ dozen	60	@	65
Lard, ₱ lb	13	@	14
Ham and Bacon, ₱ lb	14	@	18
Shoulders, ₱ lb	6	@	8

Retail Prices.

Butter, California, fresh, ₱ lb	60	@	75
do. pickled, ₱ lb	30	@	40
do. Oregon, ₱ lb	15	@	25
do. New York, ₱ lb	35	@	45
Cheese, ₱ lb	20	@	25
Honey, ₱ lb	25	@	30
Eggs, ₱ dozen	—	@	75
Lard, ₱ lb	15	@	17
Hams and Bacon, ₱ lb	20	@	25
Cranberries, ₱ gallon	85	@	1 00
Potatoes, ₱ lb	2	@	3
Potatoes, Sweet, ₱ lb	3	@	—
Tomatoes, ₱ lb	3	@	—
Onions, ₱ lb	3	@	—
Apples, No. 1, ₱ lb	4	@	5
Pears, Table, ₱ lb	5	@	7
Plums, dried, ₱ lb	11	@	15
Peaches, dried, ₱ lb	—	@	—
Oranges, ₱ dozen	75	@	1 00
Lemons, ₱ dozen	1 00	@	1 50
Chickens, apiece	50	@	75
Turkeys, ₱ lb	24	@	25
Soap, Pale and C. O.	7	@	12
Soap, Castile, ₱ lb	15½	@	16

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

FRIDAY, Oct. 30, 1868.

IRON.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar, 1@1¼c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1¾c ₱ lb; Pipe, 1¼c ₱ lb; Galvanized, 2½c ₱ lb.			
Scotch and English Pig Iron ₱ ton	$—	@$40	00
White Pig ₱ ton	—	@ 40	00
Refined Bar, bnd assortment ₱ lb	— 13	@	—
Refined Bar, good assortment, ₱ lb	— 04	@	—
Boiler, No. 1 to 4	— 04¾	@	—
Plate, No. 5 to 9	—	@	04¾
Sheet, No. 10 to 13	— 04½	@	5
Sheet, No. 14 to 20	— 05	@	5¼
Sheet, No. 24 to 27	— 05	@	6¼
COPPER.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb			
Sheathing, ₱ lb	— 28	@	26
Sheathing, Yellow	—	@	22
Sheathing, Old Yellow	— 11	@	—
Bolts	— 21	@	22
Composition Nails	— 21	@	22
TIN PLATES.—Duty: 25 ₱ cent. ad valorem.			
Plates, Charcoal, IX, ₱ box	12 00	@	—
Plates, I C Charcoal	—	@	11 00
Roofing Plates	10 00	@	10 50
Banca Tin, Slabs, ₱ lb	—	@	30
STEEL.—English Cast Steel, ₱ lb	—	@	15
QUICKSILVER.—₱ lb	55	@	60
LEAD.—Pig, ₱ lb	7½	@	8
Sheet	10	@	—
Pipe	11	@	—
Bar	9	@	9¼
ZINC.—Sheets, ₱ lb	—	@	9½
BORAX.—California, ₱ lb	20	@	23

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Mining and Scientific Press

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DITCH LAW.—The Supreme Court has just decided that Zellerbach & Co's title to the Eureka Lake ditch property is not valid, and that it is to revert to Martin & Co.; the legal point involved being that the transfer of the ditches by the Eureka Lake to the Lake Water Company was illegal, because the payment in stock was made to the stockholders and not to the company.

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Calaveras County.

Mokelumne Hill *Chronicle*, Oct. 24th: We were shown, on Sunday last, by Mr. Schlund, of our town, a "chispa," which weighed nine ounces. Those who think our mines are "petering" out, should take a look at the dust which is brought to town for sale, to say nothing about the chunks of amalgam.

The Rich Gulch correspondent writes: The Palomo mine is being worked from three shafts; the north and south shafts are being sunk by contract, while rock is being taken from a level from the center shaft to keep the mill running in the day time.

Alexander & Co. are steadily pursuing the even tenor of their way, the shaft going deeper and deeper every day. They are making extensive preparations for winter; the hillside is literally covered with timbers, so that when the roads get bad they will not be troubled.

Lee & Reed, in the old Norton claim, are expecting to strike the ledge of quartz every day. The indications are they can not be many feet from it.

Mariposa County.

Mail, Oct. 23d: Robt. Nelson, and Jas. Nelson, while working on a quartz vein, near the town of Hornitos, and formerly known as the Kellett vein, struck upon a pocket of ore exceeding in richness anything before found in that vicinity. It is estimated that they have bagged from $25,000 to $40,000, perhaps more.

Nevada County.

Gazette, Oct. 20th: H. H. Sweet, who is engaged in quartz mining in the Eureka district, informs us that the prospects in that district are extremely flattering. A crushing from Sweet's mine is now being made at Palmer's mill, which is expected to yield from $60 to $70 a ton. A crushing of 75 or 80 tons from the Banbury ledge, made at Black & Young's mill, was cleaned up a few days ago, and yielded $4,000. A new claim, supposed to be on the extension of the Banbury ledge, is now being opened, and is yielding as rich ore as was ever seen in the district.

Oct. 24th: The new mill of the Coe Co., was started in operation on Thursday. The mill has 10 stamps of 800 lbs. each, and there is sufficient steam power to put in any additional number that the yield of the mine in the future may require.

Grass Valley *Union*, Oct. 22d: Because we give but few mining items, let no one suppose that in this vicinity the miners are not active. The difficulty is that millmen and mine owners will not consent for us to give big returns for crushings now being made.

The Coe mill was started up yesterday. The following description is given of the mill and mine: The mine is now down 265 feet. They have a fine four-foot ledge, and have just commenced taking out rock from the second level, which is 250 feet beneath the surface. The quartz is of an excellent quality, and improves as they advance towards the west. The rock is of the same appearance as that of the Eureka, and particularly resembles it in the character of its sulphurets. They are in fact a telluret of gold, containing much less iron than the ordinary sulphurets, being of much less specific gravity, and are so soft as to be easily cut with the knife. No other vein, with the exception of the Eureka, contains this kind of sulphurets, and their presence is said to be an infallible indication of richness. The rock looks exceedingly well, many pieces showing free gold. There is very little water in the mine. A fine 35-horse-power engine does the hoisting and pumping. The battery consists of ten stamps, and all machinery for crushing and saving the gold is arranged in a very neat and substantial manner. The amalgamating is done in the batteries. For separating the sulphurets, four of Hungerford's improved concentrators are used. This contrivance has never been employed in this section before, but has been used in some of the lower counties with great success. It is claimed that 95 per cent. of the sulphurets will be saved. About 50 yards east of the Coe mine is the Aspinwall ledge, owned by the same company, and very similar in the character of its rock to the Coe and to the Eureka. They have a good two-foot ledge, on which they are now down 90 feet. The rock has paid from the start; that from the first 45 feet yielding at the rate of $15, and the remainder $30 per ton.

Oct. 24th: Better rock is being taken out of the Inkerman mine than ever before. The ledge is about 18 inches wide, and in ground easily worked. The next crushing will be in a few days, and 50 loads are to be put through, which good judges say will pay $20 per ton. The location of the Inkerman is near that of the celebrated North Star mine.

The new machinery for the Banner mine will be delayed in putting up for two weeks the molds in which it was to have been cast being thrown down by the earthquake.

Excelsior.—*Transcript*, Oct. 21st: The Mohawk and Montreal mine, after a run of seven days and a half, are cleaning up. A correspondent says: "I believe they are going to show you that there is really gold here, and in immense quantities." The Independence, Green Emigrant, and other mines are doing first rate, and the district has brighter days ahead.

The Mohawk and Montreal Co., Meadow Lake, in seven days and 20 hours, crushed 100 tons of rock, which averaged $30 to the ton. The ore was of different grades as follows: 25 tons of first grade, 50 tons of second grade, and 25 tons that was crushed to get it out of the way.

Virginia *Enterprise*, Oct. 20th: We yesterday saw at the assay office of Conrad Wiegand & Co., a fine gold bar from the Mohawk and Montreal mine, Excelsior district, California. The gold was brought to this city for melting and assay on Saturday evening last by Mr. C. J. Collins, who is one of the principal owners in the mine. The weight of the bar after melting and assay, is 221 ozs., and its value $3,524.49, but $48.60 of which is silver. The amount of ore crushed was 100 tons, and the time occupied in crushing was 7 days and 22 hours. The crushing was done under the disadvantage of running only in the day time, thus making it necessary to fire up anew every morning, by which much time was lost. The mill is now inclosed so that lights can be kept burning, and the mill will hereafter run day and night. The company have in sight between 1,000 and 2,000 tons of ore of the same quality as that crushed, and expect every week to send in a gold brick equal in value to this, their first one.

Placer County.

Truckee *Tribune*, Oct. 24th: We learn that the Baker Bros., at Dutch Flat, are busily engaged in getting a cement mill in readiness upon their claim. Should the mill prove a success, quite an impetus would be given to mining in that section, and it would again become a flourishing and thrifty community.

Sacramento County.

Folsom *Telegraph*, Oct. 24th: A well-known mining claim at Willow Spring Hill, regularly, at the end of the month, pays to its owners a clear dividend of $2,000 each.

Sierra County.

Downieville *Messenger*, Oct. 24th: Rock has been discovered in tunnel of the Gold Bluff Co., which pays $400 per ton.

The Forest City correspondent writes: The Young America tunnel on Young America Flat, formerly called Saw Mill Flat, has been run into the hill about 2,000 ft. The rock is soft, six men are employed. This tunnel is dry and pays very well for the hands that are being worked.

Ellery & DeMerritt's gravel claims on Young America Flat, are adjoining Dobbin's claims. The tunnel here is 1,000 feet in length. The rock is soft, and the ground is paying well.

Mr. Webb is still knocking away at his claims below the Gen. Grant.

Further down the creek on Chaparral Flat, are some gravel diggings, more generally known as the Gregg and Wade claims. These are reported as not paying very largely at present. If the tunnel here was lower, the reverse would be the case. The tunnel is about 500 ft. in length. The rock pitches into the hill downward into the water, so that it cannot be worked until a drain has been made, which it is intended to commence in a few days.

Toll's diggings, opposite Chaparral Flat, are paying well. A new tunnel is being run in here, and good pay taken out.

Tuolumne County.

A correspondent of the Sonora *Democrat* of Oct. 27th, is very urgent that the water rates be reduced, so that the miners can afford to work their claims. He says: A reduction of the water rates would certainly promote business in all branches as it would be an inducement for many that are now idle to go to work, while the working of the placer mines as it is to-day is kept in check by the water companies.

COLORADO.

Central City *Herald*, Oct. 7th: Mr. Brastow started up his new mill yesterday, for the first time.... Dr. Beatchley is making a trial run to-day on a new pan, which is partly the work of his own genius. The design is to amalgamate gold and silver ores, either with or without roasting. He claims that this pan possesses advantages over any other ever tried here before.... Mr. Owens, of the Pleasant Valley Co., sent down yesterday, and shipped through Warren Hussey & Co., 100 ounces of gulch gold. This is the product of a two week's run, working only a day gang of hands. The nights have become so cold that he has drawn off the night hands; and is now running the claims in day time only.... The Smith & Parmalee G. M. Co. are preparing to erect a new stamp mill on the site of the old one.... Col. Tannett has two very large sized and fine looking specimens of Bates ore lying in front of his office, at Black Hawk. He has a large force of hands employed erecting his new stamp mill at Mountain City.

Ore from the Apache lode yields $483.41 silver per ton.

In James Creek, the Topeka Co., of Boston, are vigorously at work tunneling on the Buckskin vein. They have passed the bottom of the first shaft and are below the second, taking out a large quantity of extra fine ore, which is being saved for the New Boston machinery.

Central City *Register*, Oct. 8th: Woodbury & Co. have the old Peregrine mill fitted up in good shape, and are running it on custom ore.

About 770 stamps are now crushing ore in Gilpin County.

They are getting out very fine looking galena in the First National tunnel. It contains about 15 ounces of silver.

Wright, Bennett & Co's bar claim at Idaho, opened out again last week, better than ever. On Saturday, three men took out over eight ounces, and the whole yield of the week, three men working, was 20½ ounces.

The bar claims generally, that are being worked below Idaho, are paying better than at any previous time this season. Griswold, Falladen & Co's claims, as well as Fitzpatrick's, Goult's, Raeder's, Schwartz & Mixer's, and several others are paying much more than wages all the time.

The gold and silver shipments for the month of September, from this city, foot up larger than during any single month for several years. The shipments by express, of gold and silver bullion, foot up $175,000, and at least $25,000 more have gone by private hands. To this is to be added $50,000 in silver ore, which has been shipped from Georgetown, and the matte shipped by Prof. Hill, which will make the total product very little, if any, short of $300,000, for the month, from Clear Creek and Gilpin counties.

Disbrow & Harkins, of the Conqueror lode, Empire district, have now, after passing through 75 feet of cap, with occasional pockets of good ore, struck a solid body of ore 3½ feet in width, which will pay fully $300 per cord in a stamp mill. Mason, Ball & Munson are at work with good results on the Teutb Legion, crushing mostly surface ores.

DACOTAH.

The local paper gives the following: In a government return of gold sent to Denver by Mr. W. C. Ervin, of Sweetwater, the dust brings $17.79 per ounce in coin, amounting at the present rates here, to $24.90. This, for battery dust, is extraordinary, and shows what may be expected from the Sweetwater country.

IDAHO.

Lewiston *Journal*, Oct. 3d: Neither of the arastras in Warren's were at work while we were there. The Bemis had stopped on account of a slight injury to the machinery, but probably is grinding as usual by this time. The Lock & Long was at that time adding new and more efficient parts to the works.

Ball & Whitman will have their arastra completed about the 10th of this month. They each have ore on hand and near by ready for reduction.

E. K. Patterson, agent for the Southar Mining Co., shipped from here to the Davis lode, near Florence, the Miners' mill which will be erected there.

The Davis lode is one of the best in North Idaho.

There is on hand at the Pioneer mill at Warren's, ready for crushing six or eight tons of rock from the Charity lode, which is very rich.

Owyhee *Avalanche*, Oct. 17th: Work continues on the Forest. The lode is reported from 10 to 12 ft. wide—rich in silver. Mr. Perry informs us that it is his intention soon to commence work on the Mayflower, a large lode eight or nine miles from Silver.

All the machinery for the Rising Star mill will be on the ground in a week. A portion of it has already arrived.

The editor has visited several of the mines. He says of the Ida Elmore: Everywhere can be seen evidence of the vast richness which has given this mine its world-wide notoriety. The lode varies from 18 inches to three feet in width. In many places we noticed the gold sparkling in the light of the candle, and several pieces of the ore, which we broke off, were completely speckled with the shining stuff. The mine is well timbered. A contract for sinking the main shaft 100 ft. deeper has been let to Dan Monroe, who has already commenced work. About 500 ft. from the mouth of the tunnel another shaft has been commenced and will be sunk to a depth of 100 ft. Between the two shafts, when completed, there will be ready for stoping a rich body of ore, 600 ft. in length and 100 ft. deep. During the next few months the ore will be taken from the upper portion of the mine and run out of the main tunnel. A fine dump ground is being prepared and a road leading thereto is being built.

He says of the Golden Chariot: The richest ore ever found in the mine is now taken from the stopes in the 140-ft. level south of the shaft. The lode is about three feet in width and contains not only considerable silver, but gold in surprising quantities, plainly visible in the dim candle light. The Golden Chariot, and in fact the whole range, taking in the Ida Elmore, Oro Fino, and extensions thereof, is the richest and most extensive deposit of gold-bearing quartz in the known world. The Upper Sinker mill continues working the ore.

The postmaster at Placerville writes to the Boise *Democrat* of Oct. 14th, as follows: This place is very quiet, but little mining being done. Miners are busily engaged fixing telegraphs and other constructions for hydraulic mining next spring, when we expect a lively time compared with the past season.

NEVADA.

Humboldt.

Unionville *Register*, Oct. 17th: The new mill company broke ground on yesterday morning for the foundation of its new mill.

Fall & Co. shipped this week, per Wells, Fargo & Co's Express, 2,300 ounces of fine bullion.

Same of Oct. 26th: Fall & Co. shipped this week, per Wells, Fargo & Co's Express, 2,500 ounces of fine bullion.

The Monroe Series Mine, in Sierra district, has passed into new hands, and is now under the control of Mr. Smythe, as local managing agent. It is his intention to push work with renewed vigor. He has now several men employed taking out ore, which pays a handsome profit above the cost of mining and milling.

W. H. Davis, managing agent for the Seminole mine, owned in New York, commenced work yesterday on the company's mine.

Winnemucca *Argent*, Oct. 22d: Atchison's mill has made a small clean-up, for a starter, of eight tons of refuse ore from Fox & McBeth's claims on the Little Giant ledge. The result was about $50 per ton. A tunnel 135 feet, striking the vein over 100 feet below the surface, shows it 2½ feet wide and rich enough to work $250 per ton.

The Golconda mine embraces 2,000 feet. Webb & White own one-half and the Star City Mining Co., of New York, the other half. The mill is also owned by the same parties. T. G. Negus, Supt. of the New York Co's interest, informs us that Webb & White have offered to give $60,000 for the other half of the property, or take that sum for their half, or segregate interests.

Reese River.

Reese River *Reveille*, Oct. 16th: Eight tons of ore from the Stonewall and Little Rose mine, located on Chloride Flat, near Treasure City, in the district of White Pine, were recently worked at the Manhattan mill in this place, and gave a yield of $450 per ton.

Oct. 17th: The South American mine, on Lander Hill, is reported to be producing a larger amount of good milling ore than ever before. The first class is of superior quality, and yields upwards of $200 per ton. The South American is one of the largest veins yet developed in Lander Hill, and wideus to five or six feet, although the most valuable ore is generally obtained from the narrower points in the vein.

Oct. 20th: There is a report in this city of discoveries of rich ledges at a point called Duckwater, about 30 miles south of the district of White Pine, in the same range of mountains. The ore is said to be exceedingly rich, and of a similar character to the fine chlorides of White Pine.

Nine bars of bullion, of the average fineness of .971, and valued at $12,458.58, were brought into this city yesterday from the Monte Cristo mill in the district of White Pine. The bars were assayed by David Lundbom, of this city.

We learn from John W. Beard, who arrived in this city from the Tuscarora district, that his 5-stamp mill would be run-

ning next week. About 50 tons of ore have been extracted from tho Beard ledge, which is estimated to yield from $50 to $100 of gold per ton. Three men, named Thomas Williams, Isaac Wells and George Taylor, had dug a ditch 1¼ miles long to bring water from McCann Gulch into Gardner Gulch, where the dirt is estimated to pay from $5 to $15 per day to the hand. Gardiner Gulch is some half a mile long and 200 feet wide, and tho pay dirt is about 13 feet deep.

Oct. 21st: David Lundbom received today for assaying 2,461 ounces of bullion from the mill of the old Dominion Co., in the district of Hot Creek.

The Virginia mine, in White Pine district, is apparently a vein, and has been traced the distance of 160 feet in a north and south direction. It has been opened by n perpendicular excavation, which is about 20 feet square for the depth of 15 feet and 4 feet in diameter for the depth of 10 feet, making a total depth from the surface of 25 feet. In making this excavation, the vein, or body of ore, was exposed to the great width of 18 feet, and how much wider it may prove remains to be determined by fuller development. The ore is highly colored by lead and copper, and exhibits the peculiar and beautiful stetefeldtite. Twelve tons of the ore have been worked—six tons at the Manhattan mill in this city, and six tons at the Centenary mill in the district of Newark—which gave an average yield of $230 of silver per ton. About 30 tons of a similar quality of ore have been taken out of the mine, and lie upon the dump, waiting for the completion of the mill at Hamilton. The Virginia mine is 600 feet long, and the body of ore is so extensive that its owners believe it may be easily opened so as to regularly supply the mill with all it can reduce. The mine is so happily situated that it may be reached during all seasons of the year.

Virginia *Enterprise*, Oct. 25th: There is no getting around it, the White Pine mines are rich—wonderfully rich. All the letters received here from there, and all the men who come in from there, tell the same story. Parties who have examined the mines say that they are doubtless the richest ever discovered in any part of the world. Mr. Wm. Woodburn, of this city, who spent some days in the mines, says he believes there is enough silver in the one small range of mountains in which the White Pine mines are situated to pay off the National debt—large as it is. His account of the nature of the silver deposit agrees with that of all others who have visited the mines, namely: that it appears to be a vast stratum of limestone, as wherever shafts have been sunk through this limestone cap the rich ore has been found. In some places the rich ore has been forced up to the surface through crevices, while in others shafts must be sunk to the depth of from 10 to 30 feet before the ore is found. The depth of the deposit is not known, no shaft having been cut through it. The Eberhart Co., the oldest in the district, have drifted in one direction a distance of 180 feet, with cross shafts 60 to 70 feet in length, and all in a solid mass of ore worth from $200 to $20,000 per foot. On Chloride Flat, on the same mountain, the same kind of ore has been found by every shaft that has passed through the limestone. All the miners who have "struck ile" have piled about their shafts large heaps of ore; ranging in value from $200 per ton up to the frightful figures we have ventured to mention above. We might make out a long list of the lucky ones, but as it might create an inconvenient excitement among their poor relations, we refrain. It is enough to say that men who were about our streets four months since without a cent are now worth so much silver that neither they nor any of their friends can calculate its value.

Washoe.

Virginia *Enterprise*, Oct. 21st: The 100-pound chunk of black sulphuret ore taken from the 850-foot level of the Yellow Jacket mine, a few days since, is now on exhibition in a glass case at the Bank Exchange Saloon, Gold Hill. An assay of it, just made by Bousfield & Co. of this city, shows that a ton of the same would yield, silver, $3,676.53; gold, $1,783.61; total, $5,460.14.

Oct. 24th: Twenty stamps are kept running day and night at the Sierra Nevada works, upon ore taken out from an immense surface deposit just above the mill. It is mined very cheaply, as there is nothing to be done but pick down the ore, shovel it into cars and run it to the mill. The ore which they are now at work upon is a vast deposit of broken quartz and decomposed vein matter, which appears to have been at some time subjected to the action of water, as the heavier matter lies upon the bottom and the whole is disposed in strata, as are the gravel banks of the placer mines of California, though in a manner less marked. It would seem that the waters of Cedar Ravine once flowed along the side of the mountain, cutting into it until a vast slide was caused, which filled up and changed the course of the ravine, throwing it off to the southward. Mr. Apple, the Supt., showed us a piece of quartz weighing about eight pounds, and with all its angles perfectly sharp, which his workmen found some 40 feet below the surface, and which must have come from a ledge a short distance above, that was full of native gold, some of it very coarse. Many such pieces have been found in the vicinity during the past six or eight years, but as yet the ledge from which they came has never been found.

The total shipment of bullion from this city and Gold Hill during the past week, by Wells, Fargo & Co's, and the Pacific Union Express companies, was 6,412 lbs., worth $227,117.12.

The Yellow Jacket mine is looking exceedingly well. The rich body on the 810-foot level, mentioned by us heretofore, is now fully five feet in width, and of unknown extent in all directions. It is too rich to be worked by the common mill process, and is being shipped to Dall's mill, Washoe Valley, for reduction by the Freiberg plan.

Oct. 25th: Parties are now engaged in putting up machinery in the old Hale & Norcross hoisting works, for the purpose of working out ground left in some of the upper levels of the mine.

Oct. 27th: A blower will soon be put in operation at the Bullion works for forcing fresh air to the bottom of the main shaft, now 1,200 feet in depth.

Gold Hill *News*, Oct. 23d: There was shipped from Wells, Fargo & Co's Gold Hill office this morning, seven sacks of bullion, weighing 575 pounds, and of the value of $14,463.

MONTANA.

Helena *Post*, Oct. 16th: Under the heading of "Another Cypher," this paper says: "That most practically interesting of all papers, the Mining and Scientific Press of San Francisco, which the *Post* takes pride in furnishing with about a column of Montana news each week, contains in its issue of the 26th ult., the following: 'Great activity prevails at present at Unionville. The daily yield of the Whitlatch & Sensenderfer, Hodge, Ricker & Turnley mills is not less than $300.' We reproduce it for the of suggesting to the Press that another cypher is needed there. The run is $3,000 per day, not $300.

We accept the explanation and make the correction. It was a typographical error. We can say for the *Post* that its strict attention to local interests, renders it one of our most valued exchanges, and enables us to give Montana that credit which it deserves as a mining country.—[Eds. Press.

Day before yesterday Prof. Steitz at the First National Bank Assay Office, manufactured four gold bricks, weighing in the aggregate 1,110 ozs., and worth $20,200 in coin.

The Virginia *Democrat* says: At Sterling, Hall & Spaulding have started their mill and Mr. Hobart has a mill in course of construction....There is an excitement about Ramshorn Gulch.

The John How tunnel at Summit is now 500 ft. long. Mr. R. Laude, of Leesburg, reports that though but little has been accomplished in the Salmon River mines this year, owing to the scarcity of water in the gulches; yet all unite in expressing their convictions, that this locality is the center of as fine a placer mining district as the Territory contains ...C. B. Houser & Co. are mining in Davis' district, on Jefferson River. A "current wheel" is used, which raises 150 inches of water 34 feet, and by means of which the miners are making $10 per day to the hand. The diggings are from 12 to 15 feet in depth, pay from the grass roots to bedrock, and will give employment to hundreds of men for years to come. Blake & Ellison are bringing a ditch from the Boulder, which, when completed, will furnish about 500 inches of water to claims inaccessible by the raising process.

OREGON.

Dalles *Mountaineer*, Oct. 16th: By the arrival of Lockwood & Edgar's stage last evening, we learn that Canyon still continues quiet, without much excitement of any kind. The new mines on being prospected, are found to be deep, but very rich, and the future hopes of the citizens are greatly elated on account of this rich discovery. It has been quite cold there for some days past, and everybody is preparing for winter. The prospecting parties have nearly all returned, seemingly satisfied that there are worse places in the mountains than Canyon City.

Engineering.

[Written for the Mining and Scientific Press.]

N. Y. Society of Practical Engineering.

This Society held its stated fortnightly meeting at its room in the Cooper Institute Building, New York City, on the evening of Tuesday, Sept. 29th, the President, Jas. A. Whitney, in the Chair.

The greater portion of the evening was occupied in the reading of a paper on the "Filtration of Water for Industrial and Domestic Purposes," by Mr. Lawrence Holms, an engineer of Paterson, N. J.

The writer opened his essay with a few comments on the statement of Liebig, that "the quantity of soap employed by a people was a test of their civilization," remarking that this does not hold good in all cases, inasmuch as in the city of Glasgow, Scotland, the introduction of water from Loch Katrine had effected an annual saving of two hundred and fifty thousand dollars, in the use of soap. He then gave a rapid glance at the magnitude, as compared with modern water-works, of the aqueducts built by the Romans in the lands conquered by their arms, and of those constructed by the Moors in Spain, and the old Peruvians in South America, and passed to the condition of the water used for ordinary purposes in various large cities of the world at the present time, citing, as an example paralleled by many other cases, the state of the London water, which, he averred, contains two and one-half per cent. of organic impurities, or nearly a tea-spoonfull to every glass of water. He also urged that it is not only necessary to purify the water for drinking, culinary and cleansing purposes, but also to do so for use in steam boilers, to prevent corrosion from organic and scale from mineral matter, and also for paper-making, in which the paper stock and the product made therefrom, is often very materially injured by extraneous earthy matter.

The writer then gave a very full description of the several plans put in operation for filtering water on a large scale in Europe, for which we have only space for a brief mention. One of the earliest, if not the very first project of this kind was one suggested by James Watt, and afterwards practically carried out by Telford as long ago as 1806, in supplying the city of Glasgow from the river Clyde. In this brick tunnels without cement at their upper sides were run through a sand-bank, which jutted into the river; these tunnels covering to a well twelve feet in diameter. The water filtered through the sand and passed to the well, whence it was pumped by steam power to supply the city. Systems somewhat similar to this are employed at Nottingham, England, which receives its water from the river Trent, and also at Toulouse, France, the tunnels being formed of open brickwork under the beds of the rivers, and the sand and gravel of such beds constituting the filtering media. Another plan still in use to some extent where the banks of the river are of loose or porous soil, is to form a basin below the level of the river bottom, into which the water may percolate through the river bank. Something of this kind is being adopted by the Aqueduct Board of Newark, N. J., who are about to supply the city from the Passaic River. In this case the filtering basins are to be 150 feet wide by 300 long, with a depth of eight feet below the ordinary low water mark. The cost of the work, including a wharf along the river bank, will be about $150,000. The writer held that while basins would doubtless answer a good purpose as settling ponds, this system can never be relied upon for purposes of filtration. Still another plan was that employed to purify the waters of the river Cant, which runs through the town of Paisley, Scotland, and which is blackened with the refuse of the many large dyeing establishments along its banks. In order to fit this water for dyeing purposes, vats about ten feet deep were sunk in the bed of the stream, and furnished with perforated false bottoms on which the filtering material was laid, the water in its purified condition being drawn from underneath the false bottoms.

The writer claimed that to filter the water supplied to the city of New York, by any of the Scotch or English plans, would require a filtering surface of twenty-four acres, and described a filtering apparatus devised by himself, which he stated would secure the same result with a filtering surface of only 2,000 square feet. This improved filter belongs to the class of close or pressure filters, and one of its essential features consists in the peculiar nature of the filtering medium employed, which was set forth as an elastic cabonaceous substance, possessing great filtering powers, and capable of being very readily cleansed when required.

A spirited debate followed on some points evolved by the reading, and which was participated in by Messrs. Harrison, Holms, A. W. Hall, and others.

Another Great Blast was let off at Lime Point on Saturday last, under the direction of Col. Mendell. The bluff projects boldly from the mountain, and it is about 250 feet high, coming down to the water's edge. It was the object of the blast not only to break up the rocks, but also to throw as much as possible into the water, to save wheeling it there. About 80,000 tons were thrown down, sufficient to give forty men a month's work in hauling it away. A tunnel was driven eighty-three feet into the mountain, with side tunnels of still greater length running from the main gangway. At the extremities of these were the charges, consisting of from 4,500 to 8,000 pounds of powder each, or a total of twelve tons—the horizontal lines of rock to be blown out varying from forty to seventy feet between the powder and daylight—the perpendicular line to be effected by this undermining being about 125 feet in hight. The powder was put loosely into boxes, and both fuse and copper wire were so placed as to fire each charge at several points in the masses of powder, to insure perfect and simultaneous combustion. The tamping was with clay, and the charges were set off with electricity.

Artesian Well in the Bay.—The Oakland Railroad Company are engaged in sinking an artesian well in the Bay of San Francisco, at the end of the railroad wharf, two-thirds of the distance from Oakland Point to Goat Island. The attempt is made in at least twenty feet of water at high tide. It is expected that soft water will be reached at no great depth under the bay.

Science and Religion.—"To search out the whence and whither of existence is an unquenchable instinct of the human mind; to satisfy it man in every age and in every country has adopted creeds that embrace the history of his past and future, and has eagerly accepted scientific truths that support those creeds. And but for this unquenchable instinct I firmly believe that neither religion nor science would have advanced so far as they have in the estimation of any people. Science has never in this search hindered the religious aspirations of good and earnest men, nor have pulpit cautions, which are but ill-disguised deterrents, ever turned inquiring minds from the revelations of science. A sea of time spreads its waters between that period to which the earliest traditions of our ancestors point, and that far earlier period when man first appeared upon the globe. For his track upon the sea man vainly questions his spiritual teachers. Along its bitter shore, if not across it, science now offers to pilot him. Each fresh discovery concerning pre-historic man is as a pier built on some rock its tide has exposed, and from these piers will one day spring arches that will carry him further over its deeps."

One of our deepest thinkers, Mr. Herbert Spencer, has said: "If religion and science are to be reconciled, the basis of the reconciliation must be this deepest, widest, and most certain of facts, that the power which the universe manifests to us is utterly inscrutible." The bond that unites the physical and spiritual history of man, and the forces which manifest themselves in the alternate victories of mind and of matter over the actions of the individual, are, of all the subjects that physics and psychology have revealed to us, the most absorbing and perhaps inscrutible." In the investigation of these phenomena is wrapped up the past and the future, the whence and the whither of his existence; and after a knowledge of these, the human soul still yearns and thus passionately strives.—*Dr. Hooker.*

MINING AND SCIENTIFIC PRESS.

W. B. EWER.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

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Our Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

Dr. L. G. Yates is our duly authorized traveling agent. July 6, 1867.

Mr. A. B. Butler is a duly authorized traveling agent and correspondent for this paper. July 15, 1867.

Resident Agents.

HELENA, Montana.—R. F. May.
BLACK HAWK, C. T.—Harper M. Orahood.
CENTRAL CITY, C. T.—Messrs. Richards & Crane, of the City Book Store, Main street, will act as our agents.
GEORGETOWN, C. T.—John A. Lafferty, Postmaster, is our agent in this place.
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San Francisco:

Saturday Morning, Oct. 31, 1868.

Notices to Correspondents.

SHAKER, San Mateo.—The fact of bubbles appearing on the surface of streams and pools of water during the late earthquake, is by no means surprising, in fact the non-appearance of such occurrences would be the more surprising of the two, the bubbles in question arising from a very simple occurrence, often appearing on the surface of stagnant waters without any artificial or natural shaking preceding their appearance, as our correspondent may easily convince himself by taking his station on Brannan street bridge, about the time of low water. It has been said by a morning contemporary that "the waters of Pescadero Creek became muddy in a moment, and the surface was covered with large bubbles. These, when a match was applied to them, burst with a slight report and a small flame, showing they were filled with an inflammable gas, that must have come from the bowels of the earth." The gas so emitted was in fact light carbureted hydrogen, or as it is sometimes called, marsh gas, owing to its usually being found in connection with such places, and is the fire-damp of the coal mines. Marsh gas requires twice its volume of oxygen for its complete combustion.

ELECTRICIAN.—Ozone is insoluble in water, and in solution of either acids or alkalies. Its bleaching powers are considerable and it acts rapidly as an oxidizing agent. It will corrode organic matter, such as cork or caoutchouc when employed in connecting experimental apparatus. Fragments of iron, copper and even silver, when moistened, rapidly absorb ozone, and become converted on their surfaces into oxides; silver even becomes a peroxide, notwithstanding the metal is wholly unchanged by ordinary oxygen. Paper soaked in a solution of sulphate of manganese shows the presence of ozone by becoming brown, owing to the protoxide of the sulphate being converted into the peroxide of the sulphate through its agency. If stained black by sulphide of lead, the dark appearance is soon converted to white, owing to its being changed into sulphate of lead.

L. J.—The phenomena of the susceptibility of melted metal, absorbing gaseous substances was observed and explained many years ago. The circumstance having first been observed in the case of what is termed the spitting of silver when a quantity of the pure metal remains in the cupel, at the completion of the refining process. This is now well known to be occasioned by the absorption of oxygen. The recent experiments of Deville have, however, greatly extended our knowledge respecting this quality, not only in other metals, but also with different gases, especially hydrogen.

WANDERER.—Fluor spar will absorb ordinary sulphuric acid when mixed with the powdered mineral, and the two will eventually be found to form a transparent, viscous mass, from which fumes of hydrofluoric acid will be evolved if the mixture is heated to 100° and upwards. It is by similar means that the corrosion of glass called frosting, is effected.

Artificial Crystallization of Gold.

Natural crystals of gold have been frequently found, in all of the gold-producing countries in the world, though they are sufficiently rare to make them, when well crystallized in large octahedrons, a great wonder to those who do not ordinarily find what may be read about such things in books, and a coveted prize to mineralogists, who value specimens in virtue of their crystallization and species. But the artificial crystallization of gold has never been heard of, or thought of heretofore, so far as our experience extends. We have before us a little bottle full of very perfect artificial crystals of gold, such as would make the eyes of any mineralogist glisten. They were obtained accidentally, in a manner so simple that it seems strange the discovery has not been made before, by some of the retorters and assayers who have been handling these same crystals hundreds of times without recognizing them as such, because hidden always under quicksilver, from which nobody has been able to separate them for examination.

These specimens were presented to us by W. A. Begole, hardware and tin merchant, of Red Dog, Nevada County, who deals a little in gold dust, and does retorting and melting for the miners.

By some means or other, in retorting the quicksilver from gold amalgam a quantity of gold is always carried along with the rising fumes, and deposited with the quicksilver in the condensing vessel. As gold has never been *proven* to be chemically volatile to so considerable an extent as would have to be accounted for in practice—though it might be more volatile in its combination with quicksilver, than in a pure metallic state—probably this volatilization is to be accounted for mechanically, by quick retorting under great heat. A quantity of such retorted quicksilver was put into a glass bottle, and let stand for about six months, when, on pouring it out, granules were observed at the bottom. These could not be saved in the form of coherent crystals, and were "burnt" in trying to separate the quicksilver. They were quite small.

On another lot which had not been retorted but strained through a cloth, acid was next used to get rid of the quicksilver, and the result was a residue of fine, large, but very friable crystals, which were subsequently hardened by a gentle calcination. Only part of the gold obtained was crystallized; the quicksilver in use weighing 75 pounds, the crystals obtained therefrom valuing at $5, and the uncrystallized gold remaining, at $20. This gold came from the Chalk Bluff range, where the metal is finer than on the Blue Lead, assaying .966 to .970; the remaining thousandths consisting of silver and copper.

The crystallization is tesseral, like that of natural gold. Octahedral and dodecahedral surfaces are well developed, the edges frequently salient, and the angular points flattened down. Reticulated masses, and twins in a variety of shapes,—one of them making a beautiful Maltese cross,—are observed, but not a single perfect octahedron is amongst them. The largest surface is an octahedral one, a quarter of an inch across at the base.

TIDE LAND CLAIMANTS.—Claimants to the salt marsh and tide lands, and lands reclaimed, who constitute, according to the 5th section of the Parish Bill, "Settlers who may purchase at appraised value," are requested to file their notices of claim with the Board of Tide Land Commissioners on or before November 1st.

THE CHEEFOO GOLD MINES in North China were imperfectly developed by the Chinese between A.D. 950 and 1386, and then abandoned till the Chinese "Californians" reopened them.

White Pine.

The ores found on the top of the high hill which has recently become famous under paragraphic headings of "White Pine,"—the location of another city of the interior,—are very pure chlorides, found in irregular deposits under a thin stratum of limestone, and filling crevices, caves, and variously shaped openings, in dolomite. Such is the most reliable information that has come to us. As chloride ores are always surface ores, it is not at all improbable, however, that the regular veins will soon be discovered, leading down to greater depths, where the ores will assume the character of sulphurets. Richness, to $10,000 a ton, is nothing very wonderful for chloride deposits, but the extent of some of these deposits at White Pine makes their occurrence a matter of interest in the history of mining. The Eberhardt deposit is from 40 to 50 feet wide, and from 80 to 100 feet in length. The depth has not been reported, but it is the opinion of the miners that the distance in that direction is greater than the dimensions horizontally. Similar rich deposits have been found in all new silver mining countries, and some of them have been described very fully, so that we can make comparisons as to the nature and influence of the country rock upon such deposits, and the character and relationship of the minerals associated therewith. Surface infiltrations, such as these will probably turn out to be, would not be influenced, however, in any manner by the country rock, except as to the existence therein of a tendency to cave-formation, and the consequent offering of suitable receptacles for infiltration or precipitation.

Shermantown and Hamilton are the names of two new towns in the vicinity of the Eberhardt and Keystone mines. This rich locality is on the top of a wooded hill 9,000 or 10,000 feet in hight, having gradually sloping sides—distant easterly from Austin 120 miles, and southerly from the overland stage road, (as near as we can learn) about 45 miles. In ravines where there has been considerable denudation of the dolomite, it is observed to be 400 feet thick, and overlying a formation of slate. Down in the valleys where silver ores have been discovered, they are not so likely to be chlorides, but sulphurets and combinations with the sulphurets of lead and antimony. How it happens that these extensive deposits of chloride are found mainly on the top of the hill, and not in the valleys, is a fair question for the local geologists. As the dolomite is found teeming with fossils, there will be no difficulty in determining the age and relationship of this formation to other sections, and possibly that of the slates as well. Great similarity has been found to exist between the White Pine and the Reveille District, which is more in a southerly direction from Austin. Everywhere along the borders between the dolomite range and the granite or slate rocks, the veins and deposits are said to be found only moderately rich.

It is not probable that the White Pine chloride deposits are continuous, either in a vertical or horizontal direction. Locally, they may extend sometimes for a considerable distance under the limestone capping, like the copper and iron *rasenlauefer* mined in many parts of the world; but nothing so continuous or regular as those, has ever been found elsewhere in the case of silver ores. Speculation and adventure are more likely, therefore, to reap the first rewards, than capital.

The chloride is said to be mixed with a little darkish silica, but to be otherwise very clearly parted from the country rock. Assays go up as high as $5,000 to $10,000. The highest authenticated assay that we are aware of was one made by Boalt & Stetefeldt, at Austin, which reached $16,000. As it would certainly not require more than fifteen to eighteen cubic feet to make a ton, some of these deposits, it would appear, must range from 200 to 1,000 tons. The Eberhardt mine, it is said, has already produced more ore containing $1,000 to the ton than either the Mexican Ophir, the Gould & Curry, or any other of the mines on the Comstock lode.

Mining at White Pine is not entirely a new thing. The mines were discovered three years ago on the west side of a range of hills, and the building of a mill was commenced last year. In June, 1867, an Indian came to the carpenters' camp, and said they were not at the right place, that there was more silver on the other side; and as an evidence of the truth of his assertion, he showed a piece of rock worth $2,700 to the ton. It was not until November that the claims were located and the importance of the discovery made public. The snow in the cañons does not disappear till May.

Three mills are under way, and that of Capt. Page will be completed in less than a month's time. At so considerable an altitude, winter will set in probably about the end of November. As wood is plentiful, cabin quarters will not be wanting; and the winter promises to be a gay one at Shermantown, and Hamilton, and the surrounding ranches.

THE NEW YORK SOCIETY OF PRACTICAL ENGINEERING.—Some three months since, a number of scientific gentlemen met in the city of New York and organized an association to be known by the title of "The New York Society of Practical Engineering." This organization is designed to fill a long existing want, by taking up subjects of practical and popular importance in the several departments of engineering, and making them the topic of thorough and exhaustive inquiry and discussion. As an illustration of the class and character of these subjects, may be mentioned those that have already been considered at the meetings of the Society—for instance: "Wooden Pavements for City Streets;" "Water Meters and their Uses;" "The Cleaning and Disinfection of Streets;" "Elevated Railways," and "The Filtration of Water for Industrial and Household Purposes."

At each meeting—the meetings are held once a fortnight—a paper is read on the subject for the evening, which is followed by a discussion designed to draw out practical information and suggestions to fully elucidate the topic in hand. The attention of the Society will not be restricted to any especial branch of mechanical industry, but will include every department of engineering, practical in its nature and important to the general public, or closely connected with extended industrial interests. It is designed at no distant day to give due consideration to the present condition of mining engineering, the processes and machinery employed therein, and also the as yet only partially developed art of "Agricultural Engineering," with its prominent and disputed feature of steam plowing.

There is no society of the character indicated, the proceedings of which have been so extensively reported by the press of the Atlantic cities, as those of the one of which we are speaking; and believing that these will be of interest to our readers we have made arrangements by which reports of the transactions of each meeting will be forwarded to us at once for publication in our columns, the report of the meeting of September 29th being published on another page of the present number of the PRESS.

CHEMICAL GEOLOGY.—Those who have read, or glanced at portions of Prof. Forbes' lecture on Chemical Geology, which has been running in our columns for a few weeks, will agree with us that the subject has not only been remarkably well treated, but that it is interesting, and, for a question so purely scientific and theoretical, unusually free from technicalities. It is worth saving entire. Our next number will conclude the lecture.

Nitrate of Potash and Nitrate of Soda.

Alex. Macrae, the Liverpool oil and produce broker, in his last weekly price statement to San Francisco merchants, publishes a circular in a peculiar style, to the effect that in the Trent affair the first *coup de guerre* of the British government was to suspend the exportation of the above named articles from England and her dependencies, to America; that anybody watching the imports into New York, Boston, etc., will see constantly among them, large and small lots of saltpeter and nitrate of soda, from Liverpool; that we draw our supplies of saltpeter from the East Indies—our nitrate of soda from the west coast of South America, but science, *of very late years only*, having taught us how to make our saltpeter or nitrate of potash, from the nitrate of soda, rendering the saltpeter refiner independant of the East Indian base, the Union Pacific Railway, via San Francisco, lays bare to the United States the nitrate of soda fields of Peru and Chili; wherefore little wisdom is required to foretell, that San Francisco must soon rival Liverpool as a depot for nitrate of soda, and it will not be surprising to see 43,000 bags here on American account, as they have now in Liverpool, on British account,—cutting off the exports of saltpeter and nitrate of soda from Liverpool to the United States, and to Canada, likewise, and leaving the gunpowder manufacturers and provision packers of the west hereafter certain of their saltpeter for all time to come. "Thus," concludes the circular, "will this new line of rail talk to our West Coast trade."

From which it is to be inferred that Mr. Macrae is more of a cosmopolitan than Englishman, in view of his interests, and that somebody is about to open a branch house at San Francisco. But a material consideration in the business is, or ought to be, that America will *not* be dependent upon Chili for nitrate of soda, and that it will not be necessary to make saltpeter (nitrate of potash) from Chilian nitrate of soda, for two reasons; firstly, because we have some nitrate of soda ourselves, and secondly, because we have also the natural mineral nitrate of potash, which is better, in commercial quantities in the form of deposits in the interior.

THE EARTHQUAKE is almost forgotten. It will be at least a month, however, before philosophers will cease inventing original theories on the subject. Like plagne, and cholera, and bombshells, earthquakes (if not hanging) can be got used to. The San Franciscan walks the streets gaily, and is even in a more thoughtless mood than if the city and county of San Francisco were not subject to earthquakes. Yet it cannot be gainsaid that an occasional yawning crack will here and there stare him in the face, or catch his eye as he turns round to look behind him, that will startle him like the apparition of a chattering demon. One may realize, in these times, that in genuine earthquake countries there cannot be found such a thing as a solid stone or brick wall anywhere, high or low, binding or no binding, and that it is only a question of a little less or a little more earthquake whether it must totter or fall,—though the chances are a thousand to one that it will merely crack and totter, and will not fall. We accept these chances without giving the matter a moment's thought, and we even smile at those who would think of doing otherwise.

NEW BOOKS RECEIVED.—The following have been received from A. Roman & Co., and will be fully noticed hereafter:

A Treatise on Steel. Comprising its theory, metallurgy, properties, practical working and use. By M. H. C. Landru, C. E.; with an appendix on the Bessemer and Martin processes.

American Houses. A variety of original designs for rural buildings, illustrated by twenty-six colored engravings, etc. By Samuel Sloan.

Work at the Foundries.

THE PANS, CONCENTRATORS AND BLOWERS.

Offices are kept at foundries by the representatives of various patent amalgamating pans—Varney's, Knox's, and others, whose location we have not ascertained. The concentrators are similarly represented, always in or about the foundries. As the patentees are in only at a particular hour in the day, they are seldom met with, except by persons who go after them pertinaciously, and who persevere till they find them. A steady, but not very brisk influx of orders seems to exist. Concentration attracts, at the present time, more attention from miners of an enterprising turn, than amalgamation; the novelties and peculiarities possible to devise in iron amalgamating pans having been about exhausted.

Hungerford and Hendy's concentrators show signs of a good deal of life and competition. The former has just made arrangements for the manufacture of a number of his machines at the Pacific Iron Works, where he may be found superintending operations himself. Four of them have just been sent to the Hardenberg & Haley mine, near Jackson, Amador County, and two of them to the Rising Star mine, in Idaho. At the Coe Mill, Grass Valley, four of Hungerford's improved concentrators are now used, being the first tried in that section, and it is claimed that they are saving 95 per cent. of the sulphurets there,—which is not probable, as no kind of wet concentration has been able to attain anything like that figure heretofore, with much more delicate machines. In principle, Hungerford & Hendy's concentrators are the same. Mr. Hendy's office is at the Union Iron Works, up stairs, in Prof. Blake's old quarters. His concentrator obtained the preminm at the late Mechanics' Institute Fair.

Some Borlase buddles are being manufactured in this city, but the parties, and the intended locality of operation, are unknown to us. The round buddles are undoubtedly well adapted for the washing of fine ores, requiring delicate handling; but it is scarcely just to name them after Mr. Borlase, who merely introduced them into Cornwall, from Prussia.

BLOWERS.

In smelting, and for ventilating purposes in mining, a good and economically working blast engine, which does not get out of order easily, is an important desideratum, and since ventilation has become a matter of so much importance in the deep Nevada mines, we observe there is an increased energy in supplying the demand for different articles of this character. There are four kinds manufactured, the cylinder and piston machine for large furnaces, the fan, the Root patent rotary blower, and the cagniardelle.

The Root blower is manufactured at the Globe Iron Works, at Stockton, by Keep & Bargion. Within six or eight weeks a dozen of them have been sent to some of the principal mines in Nevada,—the Hale & Norcross, the Imperial, etc. They are driven usually by the hoisting engine. A very large one is being made for a cupola blast furnace, to be used by the Pacific Railroad Co., at Sacramento. In New York, one of these machines is being built for the underground railroad, which is to be 20 feet in diameter and 20 feet in length, and which is intended to move a train at the rate of 60 miles an hour. One of them may be seen in operation at a cupola in Kimball's carriage factory in this city; and there is another at the McComb copper furnace, in Tulare County.

The Formhals cagniardello was described in the PRESS of Sept. 26th, 1866. It runs in water, and is very economical as to power It is manufactured by the inventor, Mr. F. Formhals, on Merchant street, opposite to the office of the MINING AND SCIENTIFIC PRESS.

A GOOD THING.—Some Yankee has invented an arrangement to prevent heavy trunks from being injured by careless handling. It is simply an india rubber ball on each of the eight corners. Strange it was never thought of before. We can imagine the fiendish look of rage and disappointment which passes over the countenance of the baggage-smashing porter, who for the first time sees one of these contrivances. The delight of his life is gone. The malignant chuckle with which he used to drop a lady's traveling trunk from his shoulder to the platform,—in full view of its agonized but helpless owner,—is "played out." It is stated that a trunk filled with books, if protected by this means, may fall from a hight of twenty feet without injury.

HISTORY OF ARIZONA AND THE COLORADO RIVER COUNTRY.—C. G. Johnston, of No. 631 Sacramento street, has issued the first number of a work, to consist of 25 parts, profusely illustrated with actual photographs taken on the ground by the author, intended to give an idea of this wonderful river and country. With a vast extent of inhospitable desert, Arizona has also a great area of very fertile country, including bottom lands as rich as those of the Mississippi, and a fertile, richly grassed and well wooded and watered mountain country, which enjoys the climate of the Middle States in summer, and that of the South in winter.

CABINET WORK.—California cabinet-makers well improve their field for fine work, and are deserving of credit for new and elaborate designs for furniture. We have just received from the establishment of Messrs. Johnson & Best, 717 Market street, a new office desk, made of Spanish cedar, finished so as to show the natural color and grain of the wood, which is truly elegant. Messrs. J. & B. have been engaged at their trade in this city for the past ten years.

SULPHURETS and rich Rebellious Ores are wanted in this city, by ROBT. TAYLOR & CO. See advertisement in another column. 17v17tf

NOTICE.—Persons interested in locating Mineral Lands in California or Nevada, will do well to observe the advertisement of N. Wescoatt, S. & M E, in another column.

CO-OPERATIVE UNION STORE.—This is becoming one of the most useful institutions in the city, and the Mechanic and Laboring Man fully appreciate it. They are now enabled to buy their Groceries and Provisions 20 per cent. cheaper than ever before, and the very best articles in the market. The store is located at 115 Sutter street, Lick House Block, San Francisco. 6v16-aim

POSTMASTERS are requested to punctually inform us of the removal of subscribers of the PRESS from their locality, or of neglect to take the paper out of the office from any cause—when the subscriber omits that duty himself. It is not our intention to send this journal to any party longer than it is desired. If we inadvertently do so, subscribers and others will please inform us.

SAVE YOUR TEETH.—Drs. Jessup & Beers, over Tucker's jewelry store, are now making a specialty of filling the fangs of dead Teeth, and building up broken crowns with *pure gold*—thus restoring them to their original usefulness and beauty. They are also using Nitrous Oxide for the painless extraction of teeth, when so desired—the only absolutely safe anæsthetic ever discovered In breathing it, it acts as a gentle stimulant, without undue excitement,—the sensation produced being truly delightful, the effect upon the lungs healthful, and in its results positively free from all danger. Prepared and administered daily at the Dental Rooms of Messrs. JESSUP & BEERS, corner Montgomery and Sutter streets, San Francisco. 15v16tf

IT
will heal
old sores, piles,
ulcers, cancers,
salt rheum, and break-
ing out on any part of the
body, and also removes pain
of every name or nature instant-
ly. It is a harmless liquid, and leaves
no smart or stain, and is called Moore's
Pain Paint For catarrh and colds in the
head, Moore's catarrh remedy affords a safe,
sure and speedy cure. Both remedies sold
by druggists everywhere, and at Moore's
office, 539 California street, northeast
corner of Kearny, where all pain
is instantly removed, free
of cost, as hundreds can
now testify from ac-
tual tests.
8v17-3m

WHERE TO ADVERTISE.—The attention of traders and mill machinists is called to the fact that the *Mountain Messenger*, of Downieville, Sierra County, possesses many special advantages as an advertising medium over a majority of the interior press, it being the only public journal published within a radius of sixty miles, in the richest and most populous mining sections of the State. Its weekly edition is double the average of country papers, being without the range of large dailies, and having no competition at home. Its local columns afford many items for our city cotemporaries, while its rates of advertising are reasonably low. 10v17tf

BUILDERS' INSURANCE COMPANY—OFFICE IN THE BUILDING OF THE CALIFORNIA SAVINGS BANK, California street, one door from Sansome street.
FIRE AND MARINE INSURANCE. 10v14t9pqr

PACIFIC
Rolling Mill and Forge Co.,
SAN FRANCISCO, CAL.
Established for the Manufacture of
RAILROAD AND OTHER IRON
—AND—
Every Variety of Shafting,
Embracing ALL SIZES of
Steamboat Shafts, Cranks, Pistons and Connecting Rods, Car and Locomotive Axles and Frames
—ALSO—
HAMMERED IRON
Of every description and size.
Orders addressed to PACIFIC ROLLING MILL and FORGE CO., Post Office, San Francisco, Cal., will receive prompt attention.
The highest price paid for Scrap Iron. 9v14-3m9p

A Book for Every Miner and Scientific Man.
JUST PUBLISHED,
KUSTEL'S NEW WORK,
CONCENTRATION
Of all kinds of Ores, and the
CHLORINATION PROCESS,
For Gold-Bearing Sulphurets, Arsenurets, and Gold and Silver Ores generally.
Price, - - - - - $7.50
A liberal discount to the Trade. For sale by the Booksellers Sent to any part of the United States, postage paid, on receipt of the price. Address,
DEWEY & CO., Publishers,
Office of the Mining and Scientific Press, 414 Clay street,
16v1tf SAN FRANCISCO.

A NEW PAPER
Will be published on SUNDAY NEXT, November 1st, to be called
THE SPIRITUAL LIGHT.
Published (for the present) Monthly.
It is especially designed to promote the cause of SPIRITUALISM, and assist in the discussion and investigation of all subjects pertinent thereto; which will naturally include Religion, Philosophy, Ethics, Morality and Universal Liberty.
TERMS OF SUBSCRIPTION.—One copy 1 year (invariably in advance) $1; Three copies to one address 1 year, $2 50. For convenience of remission, Greenbacks will (for the present) be received at $1 25 to the dollar in gold—we hope soon to be able to receive them at par.
TERMS OF ADVERTISING.—One square, one insertion, $1 (equal to 10 lines of ordinary brevier type); One square 3 months, $2; One square 1 year, $5; One column, 1 year, $25; do, 6 months, $15; do 3 month, $10.
A copy will be sent gratuitously on application to the publisher, to all places where one cannot be seen at the Bookstores. Address GEO. G. W. MORGAN, Editor and Proprietor, 472 Harrison street, between Third and Fourth street; or, 1578 Post Office, San Francisco. 18v17t

DESKS AND OFFICE FURNITURE.
JOHNSON & BEST,
Manufacturers of all kinds of
Desks and Office Furniture,
717 Market street, near Third.
Warerooms up stairs. A large variety of Desks always on hand; all kinds of Office Furniture and Cabinet Work made to order.
18v17qr

SULPHURETS;
What they are;
How Assayed;
How Concentrated;
And How Worked;
With a Chapter on the
BLOW-PIPE ASSAY OF MINERALS.
By WM. BARSTOW, M. D.
Published by A. Roman & Co., San Francisco.
For sale at this Office.--Price, One Dollar.
With the aid of this Book, the miner can assay his own ores, requiring but few materials, etc., except such as are generally to be found in the interior towns. 21v15tf

LOOK TO YOUR ROOFS!
Pacific Concrete Company,
No. 622 Clay street,
Factory on Kingstreet, between Third and Fourth street.
New roofs covered and leaky roofs repaired, in thorough and substantial manner, promptly and at very reasonable rates. Proprietors of Eagan's Patent. 18v17tf

To Capitalists.
Two rich Gold-Bearing Quartz Veins—one of 6,400 feet, and the other 3,000 feet—situated in El Dorado County, about fifty miles from Sacramento, are offered for sale, under reasonable conditions. For particulars, inquire at J. A. MARS', 512 California street, near Wells, Fargo & Co's, San Francisco. 18v17-4w*

Favorable to Inventors.—Persons holding new inventions of machinery and important improvements, can have the same illustrated and explained in the MINING AND SCIENTIFIC PRESS, free of charge, if in our judgment the discovery is one of real merit, and of sufficient interest to the public to warrant publication.

Machinists and Foundries.

PALMER, KNOX & CO.,

Golden State Iron Works,

Nos. 19, 21, 23 and 25 First Street,
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF

MACHINERY,

STEAM ENGINES AND QUARTZ MILLS

DUNBAR'S IMPROVED

Self-Adjusting Piston Packing,

Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

WHEELER & RANDALL'S

NEW GRINDER AND AMALGAMATOR

HEPBURN & PETERSON'S

AMALGAMATOR AND SEPARATOR,

Knox's Amalgamators,

WITH PALMER'S PATENT STEAM CHEST,

Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continual working.

Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10qy-tf

IRA P. RANKIN. A. P. BRAYTON. A. C. AUSTIN.

Pacific Iron Works.

First and Fremont Streets,
SAN FRANCISCO.

Having been established since 1851, we have accumulated a very large variety of Gear and other Patterns, which, with our superior tools and appliances, give us facilities for doing first class work unequaled on the Pacific Coast.

Among other things, we manufacture the following:

STEAM ENGINES,

Horizontal and Vertical, for either Stationary or Marine use.

BOILERS—High and Low Pressure,

Pump, Pipe and Sheet Iron Work of every kind.

Quartz Mill Work,

Including High and Low Mortars, for wet or dry crushing; Furnace Irons for Roasting Ores; Freiberg Barrels; Varney's and Wheeler's Amalgamating Pans and Settlers; Stamp Shoes and Dies of best White Iron; Russia Iron Screens, etc., etc.

Flour Mill, Saw Mill and Sugar Mill Work in every variety; Pumping and Hoisting Machinery; Hausbrow's Patent Challenge Pump, for Domestic, Ship and Mining use—the most approved and successful Pump manufactured.

Castings of every description, Iron and Brass.

We would call especial attention to "Wright's Patent Variable Cut-off Engines," of which we are the sole manufacturers on the Pacific Coast, under license from the Woodruff & Beach Co., Hartford, Ct. As a simple, effective, FUEL SAVING, first-class Engine, this is, without doubt, the best Engine made in the United States.

Orders promptly attended to. Prices as low as possible for first class work, and we intend to do no other.

GODDARD & CO.
San Francisco, May 1, 1868. 18v16tf

WILLAMETTE IRON WORKS,

PORTLAND, OREGON.

Steam Engines, Boilers,

SAW AND GRIST MILLS,

MINING MACHINERY, WROUGHT IRON SHUTTER WORK, AND BLACKSMITHING IN GENERAL.

Corner North-Front and E streets,
18v13-1y One block north of Couch's Wharf.

Globe Iron Works,

STOCKTON, CAL.

KEEP & BARGION,

MANUFACTURERS OF

Quartz, Saw and Grist Mill Irons, Steam Engines, Horse Powers,

High and Low Pressure Steam Engines, Steamboats and Propellers, made at short notice.
13v13tf

WM. HAWKINS. T. G. CANTRELL.

HAWKINS & CANTRELL,

MACHINE WORKS,

Nos. 210 and 212 Beale street, between Howard and Folsom streets, San Francisco.

Manufacturers of STEAM ENGINES and all kinds of Mill and Mining Machinery. N. B.—Jobbing and Repairing done with dispatch. 10v17 3m

To Foundrymen and Blacksmiths.

LUMP LEHIGH AND CUMBERLAND COAL, IN ANY quantity, sacked and shipped to any part of the country, by JAS. R. DOYLE, Coal Dealer, 413 and 415 Pacific street, bet. Sansome and Montgomery, San Francisco.
24v15-3m

CITY IRON WORKS COMPANY.

CLERC & CO.,

IRON FOUNDERS,

Steam Engine Builders, and Makers of all kinds of Machinery,

1v16qr No. 23 Fremont street, San Francisco.

Miners' Foundry

—AND—

MACHINE WORKS

Nos. 245 to 255 First Street,

San Francisco.

HOWLAND, ANGELL & CO.,

PROPRIETORS,

Manufacturers of Machinery for

QUARTZ MILLS.	**FLOUR MILLS,**
SAW MILLS,	**SUGAR MILLS,**
POWDER MILLS,	**PAPER MILLS**

Steam Engines of all Kinds.
Amalgamators of all Kinds.

MINING PUMPS,	**HOISTING WORKS**
OIL WELL TOOLS,	**ROCK BREAKERS,**

—AND—

Machinery and Castings of all kinds, either of Iron or Brass.

Boilers and Sheet Iron Work in all its Branches.

Shoes and Dies of White Iron, manufactured for and imported by us expressly for this purpose, and will last 25 per cent. longer than any other made on this coast.

Russia Iron Screens, of any degree of fineness. We are the only manufacturers on this coast of the

HICKS ENGINE,

The most compact, simple in construction, and durable, of any Engine in use.

W. H. HOWLAND, H. B. ANGELL,
13v14-qr **CYRUS PALMER.**

FULTON

Foundry and Iron Works.

HINCKLEY & CO.,

MANUFACTURERS OF

STEAM ENGINES,

Quartz, Flour and Saw Mills,

Hayes' Improved Steam Pump, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.

N. E. corner of Tehama and Fremont streets, above Howard street, San Francisco. 3-qy

McAFEE, SPIERS & CO.,

BOILER MAKERS

AND GENERAL MACHINISTS,

Howard st, between Fremont and Beale, San Francisco.

Flue or Tubular **Boilers**, with plain circular or spiral corrugated. Upright Fire or Tubular Boilers, Locomotive and Marine Boilers, and Wrought Iron Tanks of every description.

Hydraulic Pipe supplied at reasonable rates. In ordering, give the quantity of water to be supplied, hight of the fall, and total length of pipe, so as to enable the firm to determine the diameter of the pipe and thickness of iron to be used.

Repairs.—Boilers, Smoke Stacks, Pipes, etc., put in repair with promptness.

To Boiler Makers and Machinists in the Interior.—The firm is prepared to furnish estimates of Boilers, supply new Heads, drilled and punched, and attend to the selection and forwarding of Iron for Boilers, Pipes and other purposes.

Plans, Drawings and Specifications.—The firm is prepared to make out Plans and Specifications, receive estimates, and superintend the Erection of any Machinery that may be entrusted to their care

To Inventors.—The firm is prepared to assist in developing the plans of those who have the ideas but not the practical experience necessary to put the same in form, by making Drawings of their inventions, giving them the benefit of their practical knowledge in the construction of Machinery, and attending to the manufacture and introduction of their inventions. 1v16tf

UNION IRON WORKS,

Sacramento.

WILLIAMS, ROOT & NEILSON,

MANUFACTURERS OF

CROSS' PATENT BOILER FEEDER,

STEAM ENGINES, BOILERS,

And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old Cylinders, manufactured to order.

Front Street, between N and O streets,
14v11 SACRAMENTO CITY

Oakland Point Foundry,

Near Oakland Point R. R. Station,

MANUFACTURES

House Fronts, Sash Weights,

Ranges, Light and Heavy Castings of all kinds.

Having this day dissolved partnership with C. A. Walker, the business will hereafter be conducted in the name of the undersigned.

☞All orders promptly attended to.

MARTIN T. MEAD.
July 16, 1868. 5v17-1m

LINCOLN IRON WORKS,

No. 51 Beale st., bet. Market and Mission.

D. FOURNESS, Proprietor.

STEAM ENGINES,

Flour and Sawmills, and MACHINERY of all descriptions made and repaired at shortest notice.

☞Particular attention paid to repairing Reynold's Cut-off
5v15qr.

G. T. PRACY.

MACHINE WORKS,

NOS. 109 and 111 MISSION STREET,
Between Main and Spear.



New and second-hand

Engines and Boilers,

FOR SALE.

Also one first-class Hoisting Engine; one Upright Engine, of entirely new pattern.

MANUFACTURER OF

Lathes, Drills,

And MILL MACHINERY of every description.

PRACY'S

New and Improved

STEAM ENGINE

REGULATORS,

The best and cheapest yet invented—manufactured and for sale. Parties are invited to examine it in practical operation.

F. A. HUNTINGTON'S

Shingle Machines

on hand.

Particular attention paid to Repairing.

☞All work guaranteed to be done in a first-class manner, and at the lowest rates. 12v17tf

Phœnix Iron Works.



JONATHAN KITTREDGE, Proprietor,

Nos. 18 and 20 Fremont street, near Market,

MANUFACTURER OF

Fire-Proof Doors, Shutters,

Wrought Iron Girders, and all kinds of Housesmith work, Bridge and Prison Work;

BANK VAULTS AND MONITOR SAFES,

FORGING AND MACHINE WORK.

Agency for the ISHAM KEY REGISTER BANK AND SAFE LOCK, the only first class Lock in the United States
1v17tf

J. NEWSHAM. J. BIGWOOD.

SOUTH BEACH IRON WORKS,

Near corner of King and Third streets, San Francisco.

MARINE ENGINES,

AND ALL KINDS OF

MACHINERY FORGING.

All kinds of Ship-smithing and Mill work manufactured to order. Jobbing of every description promptly attended to. All work done guaranteed. 13v14-1y

CALIFORNIA BRASS FOUNDRY.

No. 125 First street, opposite Minna,
SAN FRANCISCO.

ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞ PRICES MODERATE. ☜

J. P. CALLAGHER. J. H. WEED V. KINOWELL.
9v13-1y

THOMPSON BROTHERS,

EUREKA FOUNDRY,

129 and 131 Beale street, between Mission and Howard, San Francisco.

LIGHT AND HEAVY CASTINGS,
of every description, manufactured 24v16qr



JAMES MACKEN,

COPPERSMITH,

226 Fremont st., bet. Howard & Folsom.

All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to.
13v11

The Risdon Iron & Locomotive Works.

Incorporated, April 30, 1868. Capital, $1,000,000.

Location of Works, Corner Beale and Howard streets, SAN FRANCISCO.

Successors to Pacific Mail S. S. Co. Works at Benicia, Coffey & Risdon, and Devoe, Dinsmore & Co., San Francisco.

Steam Engine Builders, Boiler Makers,

MACHINISTS AND FOUNDRYMEN.

All work in their line attended to with promptness and dispatch. DIRECTORS—S. F. Butterworth, Lloyd Tevis, Jas. Pollock, Sen. Holladay, Chas. E. McLane, John N. Risdon, Joseph Moore, John N. Risdon, President; Joseph Moore, Vice President and Superintendent; Chas. E. McLane, Treasurer; Lewis R. Mead, Secretary; Lewis Coffey, Superintendent Boiler Works. 8v17-qy

OPENING OF THE FIRST PUBLIC RAILWAY. "Tuesday, the 27th of September, 1825, was a great day for Darlington. The railway was at length about to be opened. A great concourse of people assembled. The locomotive was driven by Geo. Stephenson himself; after it came six wagons loaded with coal and flour, then a covered coach containing directors and proprietors, next twenty-one coal wagons filled with passengers, and lastly six more wagons loaded with coals. A horseman, with a flag, headed the procession. The locomotive was only supposed to be able to go at the rate of four to six miles an hour; and an ordinary horse could easily keep ahead of that. Many people tried to accompany the train by running, and some gentlemen on horseback galloped across the fields to keep up with it. At a favorable part of the road, Stephenson determined to try the speed of the engine, and calling upon the horseman with the flag to get out of the way, he put on the steam. The speed was raised to twelve, and then to fifteen miles per hour. The runners, the horsemen, and the flag-bearer, were soon left far behind. At the station a band of music, and 150 more passengers, were taken on board therefrom."

WHAT ENGLISHMEN SAY.—The Americans have a type of beam engine which has answered exceedingly well for their river boats, and is, indeed, employed, and, so far as we can learn, with good results, upon the Pacific Ocean, both for the ships running between Panama and San Francisco and those from San Francisco to Japan. It is a well-known but unique type, which there is no occasion to criticise, but it is, of course, wholly unsuited for war ships. In their newer war vessels, the Americans, under Mr. Isherwood's engineering, have a class of machinery of which we trust they may long enjoy a monopoly. We have shown, in former articles, how much space it takes up in the ship, how much it weighs, and its great complication, while at the same time the power developed, when considered with regard to the leading dimensions, is much below what is required from English marine engineers. We cannot adopt the American big guns, the "great chunks of cast-iron with a hole in them," as the Americans delight to describe them, but we may see what we can do with their monitors, and in return let them consider whether it is not worth their while to take our marine engines. Indeed, as a mere matter of dollars and cents, they can have their ships towed over here and engined, or, better still, have them built here both better and cheaper than in the States.—*Engineering.*

THE READING MARKET.—There is an American Literary Bureau in New York that undertakes to get published works of merit from authors unknown to fame. It professes to supply suitable artieles for public journals. There is no reason why there should not be a gain in the quality of newspaper articles, by having a market which offers inducement to talent to make effort, and to proprietors to seek for varied literary productions fresh from the pen.

THE CHASSEPOT GUN A COMPLETE FAILURE—AN AMERICAN PLAN TO BE ADOPTED. A Paris letter to the New York *Herald* states that the Chassepot gun is a complete failure, and one of the most dangerous weapons ever supplied to an army. Two or three systems of alterations have been tried, and it is probable that one on an American plan will be adopted, and with it a radical change in the character of the ammunition.

SUBTERRANEAN WATERS.—Recently a portion of the track of the Bellefontaine and Indianapolis Railroad, about two hundred and fifty feet long, sank over sixteen feet, and the ground around sank with it. All the trains have been obliged to stop, and the track has been raised by "cribbing." Fish from twelve to eighteen inches long appear where water has risen out of the crack. It is supposed that a subterranean lake exists.

MAMMOTH FARMS.—The plan of investing largely in wheat lands of Minnesota, which are sold cheap, and of opening immense farms, seems to be in favor with heavy capitalists. Such are the Dalrymple, Marshal and Donaldson, and Paxton farms. Commodore Davidson has entered 17,000 acres of excellent wheat lands, and next year contemplates breaking extensively on this tract, preparatory to raising wheat the following year.

MANY English gentlemen living in the suburbs of London, disgusted with the extortions of the railway companies, have purchased velocipedes, and declare their independence of steam.

Enterprises and Developments.

Twelve hundred bottles of Water are dispatched from tho Napa Soda Springs daily.

The Collegiate Institute nt Napa is to be placed iu completo order and opcued on the 1st of January.

Secretary Sewnrd and Baron de Stoekl, Russian Minister, have under consideration the right of the American fishermen to the Alcutian Island fishing grounds.

Australia will doubtless furnish beef to t'io Londoners in the future, as thousands of cattlo roam there at will, and are, as in South America nnd in the Sandwich Islands, destroyed for hides and tallow.

The Nevada State markets are now supplied daily with fresh sea fish from San Francisco—bass, tom-cod, smelts, flounders, etc.—which are preferred hy many of the Silverlanders to Lake Tahoe trout.

A first class young ladies' seminary is proposed at San Leandro, Alameda County. A new seminary building forty by forty feet, two stories high, with a cupola, will he crected, says the *Gazette*, ncar the center of the town for this purposc.

The Hawaiian bark Bernice arrived from tho Okhotsk Sea, n few days ago, with 130,000 codfish. This is the last of the fleet. In round numbers our total rceeipts from the northwestern fishing grounds, for the season, have been 600,000 fish.

During the present season ninety tons of raspberries have heen raised in Alameda County. The average price at which they were sold was fifteen cents per pound, making the total value of the crop raised upon sixty acres of land amount to the round sum of $27,000.

The southern portion of the State is gaining in population rapidly. The Orizaha leaves her wharf crowded with passengers, standing room being scarcely left on board, and a large portion of them are in pursuit of lands for permanent homes nt points from San Luis Obispo southwards to the Mexican linc. Another steamer is to he put on the route.

The Fiji company, consisting of Australia adventurers and capitalists, has at length consummated its treaty with the King of Ban, and the document has been ratified by the Commodore of the Australian squadron. The American debt owed by that sovereign is to he paid with interest within a year, and the company will at once commence operations for the development of the islands acquired.

TIMBER-ROT.—There are two situations, and only two, iu which wood is not attacked by decay: where sound, well-seasoned timber is kept perfcctly dry, and where it is kept constantly immersed in water. The timbers in the roof of Westminister Hall are known to be 450 years old. The carvings on the stairs are 300 years old. Some of the interior of the Basilica at Rome, his not been renewed for 1,000 years. The piles of old London hridge are still sound, though sunk in the mud of the Thames 800 years ago. There stands in the altar of the old brick church at Wethersfred, a table made from the oak of the first structure for worship in the place. The trees furnishing this timber must have beeu cut two hundred and thirty years ago. On the other hand, where the timber is subjected to extreme alternations as regards moisture, rot begins with most kinds in from three to five years.

INTELLIGENT BED-BUG.—An inquisitive gentleman wishiug to know how the hug became aware of human presence, tried the following experiment: He got into a bed suspended from the ceiliog without any tester, in the middle of an unfurnished room. He then placed on the floor a bug, which guided, probably, by smell, pondered the means of reaching the bed. After deep reflection, it climbed up the wall, traveled straight across the ceiling to the spot immediately over the bed, and then dropped plump on the observer's nose. Was this, or was it not, au act of intelligence?

ENGLAND is alarmed at the emigration of inventors and skilled workmeu to America, and in order to avert further depletion, it is proposed to create a fund to develop important and approved inventions.

GEO. E. ROGERS,
(Successor to G. W. Bell.)
ASSAYER,
512 California st., San Francisco.
J. A. MARS, Assayer.
Ores carefully Assayed. Gold and Silver Ores worked.
22v16-3r10pnr

HAYWARD & COLEMAN,
IMPORTERS AND REFINERS
—OF—
Illuminating, Lubricating,
—AND—
PAINT OILS,
CONSISTING OF
KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS, NEATSFOOT, BOILED AND RAW LINSEED, CASTOR AND CHINA NUT.
—ALSO—
Spirits of Turpentine and Alcohol.

Lamps and Lamp Stock!
An elegant and complete assortment.

SOLE IMPORTERS OF
Devoe's Illuminating Oil.
PATENT CANS.
5v17-tf. 414 Front street, San Francisco.

HENRY CAREY BAIRD,
Industrial Publisher,
No. 406 Walnut Street, Philadelphia.
HAS RECENTLY PUBLISHED
A Practical Guide for the Perfumer; Being a New Treatise on Perfumery the most favorable to the Beauty without being injurious to the Health, comprising a description of the substances used in Perfumery, the Formulæ of more than one thousand Preparations, such as Cosmetics, Perfumed Oils, Tooth Powders, Waters, Extracts, Tinctures, Infusions, Spirits, Vinaigres, Essential Oils, Pastels, Creams, Soaps, and many new Hygienic Products not hitherto described. Edited from Notes and Documents of Messrs. Debay, Lunel, etc., with additions by Professor H. Dussauce, Chemist. 12mo..... $3 00
Cabinet Maker's Album of Furniture: Comprising a Collection of Designs for the Newest and Most Elegant Styles of Furniture. Illustrated by 48 large and beautifully engraved plates. In one volume, oblong..... 5 00
The plates of this beautiful volume comprise designs for bedsteads in great variety; chests of drawers; wardrobes; dressing bureaus; tables for the chamber; work-tables; extension dining tables; card and chess tables; parlor tables, Louis XV. and other styles; office tables; chiffoniers; ladies' and other secretaries of different forms and styles; toilet tables and glasses; desks; book-cases; sideboards, etc., etc.
Gothic Album for Cabinet Makers: Comprising a Collection of Designs for Gothic Furniture. Illustrated by 23 large and beautifully engraved plates. Oblong..... $3 00
The plates in this volume comprise designs for sofas, arm and other chairs, stools, taborets, pries-dieu, tables, chests of drawers, wardrobes, chimney-pieces, side-boards, pier tables, etagercs, desks, book-cases, etc.
A Practical Guide for Puddling Iron and Steel.—By Ed. Urbin, Eng. of Arts and Manuf. A Prize Essay read before the Association of Engs. Graduates of the School of Mines, of Liege, Belgium, 1865-6. To which is added a Comparison of the Resisting Properties of Iron and Steel. by A. Brull. From the French, by A. A. Fesquet, Chemist and Engineer. 8vo., cloth..... $1 00
☞The above, or any of my publications, sent free of postage, at the publication prices. My new and enlarged CATALOGUE OF PRACTICAL AND SCIENTIFIC BOOKS, 56 pages, 8vo, is just ready, and will be sent free of postage to any one who will favor me with his address. 23v16tf

JOHN PERRY,
MANUFACTURER OF
Cocoanut Matting, Rugs, Mats, Etc.
And Cocoanut Fiber for Upholstery.
South side Chestnut street, bet. Polk and Larkin streets,
SAN FRANCISCO.
BY A PROCESS ENTIRELY NEW, THE PROPRIETOR is now manufacturing in quantity sufficient to supply the demands of the trade, A NEW AND SUPERIOR MATERIAL FROM THE FIBER OF THE COCOANUT—the best substitute for curled hair hitherto discovered—for mattresses, chairs, lounges, and all upholstering purposes. The following are some of the advantages which it possesses over all other materials used for the above named purposes:
1st. It is cheaper, all things considered, than most articles in use.
2d. It is the best and purest material known in the market, being entirely free from all offensive smell.
3d. It is the most durable, not being subject to rot after years of exposure to moisture and dampness.
4th. It is remarkable for its elasticity, rivaling, in this respect, the finest curled hair.
5th. It contains nothing to breed vermin or support insect life, being entirely freed in process of preparation from all deleterious vegetable matter.
Lastly. It does not pack; is free from dust; much lighter, and in general obviates all the objections to palm, prepared shavings, soap root, and other inferior substitutes for feathers and hair. 22v16tm

OIL STOVES!
MORRILL'S
Petroleum and Universal Oil Stoves
Have proved themselves a superior substitute for Wood and Coal Stoves, in that they work quicker, are neater, bake and broil better, are MORE ECONOMICAL generally. They are portable, can be used in any room, with or without chimney, as they emit no smoke, soot or ashes. There are nine different sizes, designed for barbers, dentists, and other mechanical purposes—as well as for cooking. They are perfectly safe.
I now offer a reward of $100 for every Petroleum Stove exploded by Naphtha delivered at my store, 18 Geary street, where they are for sale by
M. B. BULLARD,
Proprietor of Petroleum Stove for California, and Agent for Universal Oil Stove for Pacific Coast.
N. B.—Petroleum Stoves burn Naphtha converted into a gas. Universal Oil Stoves burn Naphtha, Benzine, or Coal Oil, with non illuminating flame and light on a wick as easy as a lamp. 21v16 3m

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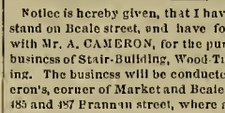
THE MINING AND SCIENTIFIC PRESS comes to us this week in a new dress throughout, much improving its appearance. The PRESS is one of our most valuable exchanges, and fills a place in mining and scientific matters never attained by any other journal.—*Colorado Miner*

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EMERSON'S PATENT MOVABLE TOOTHED CIRCULAR SAWS
SUPERIOR TO ALL OTHERS.
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Movable-Tooth and Perforated Circular Saws,
Perforated Mulay, Mill and Cross-Cut Saws, with Adjustable Sockets.
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Etc., have established an office for the sale of the above articles, at
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☞Descriptive Pamphlets will be forwarded to any one
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NEW INVENTION!
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SHADES, Etc., Etc.
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AT PRICES TO SUIT ALL.
FURNITURE AND MATTRESSES
Made to order.
All kinds of upholstering executed with neatness and dispatch. 9v17

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THE SUBSCRIBER, HAVING SERVED FOR THE LAST five years as Secretary of various mining companies, feels fully competent to serve in that capacity. Any parties wishing to secure the services of a Secretary can be accommodated on reasonable terms. Information given, and all necessary papers correctly made out.
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Room 37 New Merchants' Exchange, California street, San Francisco. 17v15-tf

NOTICE.
TO ALL WHOM IT MAY CONCERN.—Notice is hereby given, that I am the first discoverer, first locator, and first Recorder of the Morey District, Nye County, Nevada, and I warn all persons from buying any interest in the said Morey mines until I prove my title to be perfect and lawful to said mines. THOS. J. BARNES.
Austin, Nev., Oct. 9, 1868. 16v17 1m

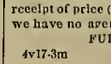
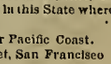
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N. B.—J. W. QUICK is the only competent and successful manufacturer of Screens in the State, having made Screens for the principal mills in this State and adjoining Territories for many years. Quartz mill owners using punched Screens which have universally failed to give satisfaction, when visiting the city will please call and see me. 5v17-1y

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☞Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents
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NEWLY INVENTED ANIMAL TRAP.—Messrs. A. J. Adams and B. P. Quivey, of this city, have received letters patent for an animal trap, invented by Mr. Adams. This trap is adapted to the capturing of animals of all sizes, and can be used with bait, or being set in their path it "goes after" the animals without bait. It consists of two pairs of sharply pointed hooks which are held apart by a spring, when the trap is set, and as the animals pass into the trap either to feed upon the bait, or as they pass over it, they press upon the trigger, and thus spring the trap, when the hooks instantly close and pierce the animal through the head or body, thus depriving them of "life, liberty, and the pursuit of" prey, at one and the same time. One of these traps now in possession of Capt. Douglas, on the ferry-boat, has caught nine beavers, having only missed capturing a victim once in ten times. The construction is simple and inexpensive, and will be very useful.—*Oregonian.*

SOIL CHANGED BY SETTLEMENT.—A letter from a late traveler in Nebraska notes some curious contrasts: "It is a frequent subject of remark in the Ohio Valley, that settling the country, clearing and ditching the land, constantly makes it drier; that old wells and springs are drying up, and each succeeding summer branches run dry which never did before The French Agricultural Report makes the same complaint, and calls upon the Government to stop the destruction of the forests, as the means of preserving the rivers. But here, with settlement, exactly the reverse phenomena are presented, and the quantity of rain in western Nebraska and Kansas has doubled within the memory of man. Perhaps this is due somewhat to the trees planted on new farms, but I think also that the breaking up of the sod allows it to absorb more moisture than it could in the prairie state, and in many instances turning a hundred acres of sod will renew an old spring. Fresh branches are starting in gullies which have been dry for hundreds, perhaps thousands of years."

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SAVING PRECIOUS METALS
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The MINING AND SCIENTIFIC PRESS is now in its SEVENTEENTH VOLUME, and enjoys a large circulation. It received the following hearty endorsement of the California Miners' State Convention, held at Sacramento, January 17th, 1866:
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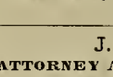
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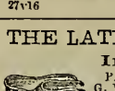
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[illegible] Bank of British Columbia 19v16-3m

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INCLUDING THE CHLORINATION PROCESS FOR Gold-Bearing Sulphurets, Arseniurets, and Gold and Silver Ores Generally, by GUIDO KUSTEL, M. E. & M., author of Nevada and California Processes of Silver and Gold Extraction—120 lithographic diagrams.

OPINIONS OF THE PRESS.

KUSTEL'S NEW WORK.—Mr. Guido Kustel has just put forth another volume, a copy of which we have received from the publishers, Dewey & Co., San Francisco. The book contains 120 diagrams on seven plates. In issuing the work, the design of the author appears to have been to exhibit the present state of the art of concentrating ores as practiced in the older and more experienced mining sections of the world, as well as in the more recent mining operations in California. The principles on which the system of concentration is founded are stated without entering into scientific reasons.

The dressing of ores is treated at great length, and the plan is based on these principles: "1st. Each constituent of the mass of ore must be brought to the highest value which can advantageously be given to it. 2d. The useful minerals must be concentrated only to the most advantageous degree of purity; and, 3d. All loss of the quantity and value of the useful mineral must be avoided as far as practicable." Reduction in its diversified modes—by rock-breakers, stamps, rolling mills, and grinding in arastras, pulverizers, Chili mills and pans—necessarily occupies large space by reason of its importance.

The plan of reducing ores by stamps, in either the wet or dry process, forms a complete treatise of itself, and may be studied with advantage by all persons connected with reduction works of that character. Concentration of gold ores is specially treated in section 49, and of silver ores in section 50. The latter subject should possess interest for our millmen and miners, as the plan of concentrating ores is certain to be resorted to as soon as the business is understood and reduced to a system.

The sections of the work devoted to the extraction of gold from sulphurets, arseniurets, or quartz, by chlorination, are based on Plattner's process of the property of chlorine gas to transform metallic gold into soluble chloride of gold. By this process it has been demonstrated that gold is extracted perfectly. Our author says the process was first introduced into Nevada, California, in 1858, where there are several establishments in successful operation.

The process of chlorination is described in the fullest manner, and embraces a particular description of the various roasting furnaces in use, as well as of the operation of roasting.

We commend Mr. Kustel's treatise to the attention of all concerned in the business of mining and reducing ores, to whom it must prove a valuable hand-book of practical knowledge.—*Daily Reese River Reveille, Jan.*, 1868.

Price of the work, $7.50. Published by Dewey & Co., MINING AND SCIENTIFIC PRESS, San Francisco, who will supply orders, by mail or express, at wholesale or retail.

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Two Rocks, Sonoma Co., Cal., Sept. 23, 1868.—Messrs DEWEY & Co:—On my arrival home, I found my Letters Patent all arranged to my entire satisfaction. Please accept my thanks for the energy, skill and dispatch with which you procured it for me. In future, should I require assistance in your line of business, I shall most certainly apply to you. Truly yours,
MICHAEL LAUFENBURGE.

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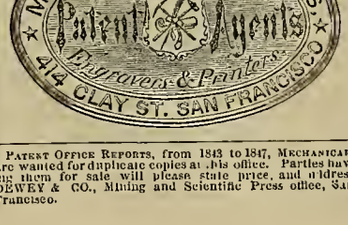
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ATTENTION.—Virginia City, Aug. 9th, 1868—Dewey & Co., San Francisco.—Gents:

The Patent, enclosing your favor with Inventor's certificate, etc., came duly to hand, and for which please accept my grateful acknowledgements.

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Yours truly, J. A. C.

New Mining Advertisements.

Diamond Copper Mining Company. Location: Rockland District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-eighth day of October, 1868, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No 40 Merchants' Exchange Building, California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the tenth (10th) day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty eighth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. A. COOLIDGE, Secretary.

Office, Room No. 40 Merchants' Exchange Building, California street, San Francisco. oc31

Fogus Mill and Mining Company.—Location of Works: Amador County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-third day of October, 1868, an assessment of two dollars and fifty cents ($2,50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at his office in San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-fourth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the twelfth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN J. SCOTCHLER, Secretary.

Office, No. 318 Front street, San Francisco, Cal. oc31

Mining Notices--Continued.

Cordillera Silver Mining Company, Morelle District, Chihuahua, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixteenth day of October, 1868, an assessment of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at his office, 321 Washington street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eighteenth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the seventh day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

HENRY R. REED, Secretary.

Office, 321 Washington street, San Francisco. oc17

Great Central Mining Company.—Location of Works: Yuma County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the ninth day of October, 1868, an assessment of two and one-half dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company.

Any stock upon which said assessment shall remain unpaid on the eleventh day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the thirtieth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

O. D. SQUIRE, Secretary.

Office, No. 414 Montgomery street, San Francisco oc17

Gold Hill Tunneling Gold and Silver Mining Company.—Location: Gold Hill Mining District, County of Storey, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the ninth day of October, 1868, an assessment (No. 11) of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, R. Wegener, 414 California street, San Francisco, Cal., or to the Superintendent, H. Huguet, Gold Hill, Nevada.

Any stock upon which said assessment shall remain unpaid on the eighteenth day of November, 1868, shall be deemed delinquent, and will be duly advertised, together with costs of advertising, and unless payment shall be made before, will be sold on Wednesday, the ninth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. WEGENER, Secretary.

Office, 414 California street, San Francisco oc17

Greenwood Mill and Mining Company, Green- wood, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board Trustees of said Company, held on the tenth day of October, 1868, an assessment of fifty dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 434 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twentieth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the ninth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

WILLIAM VALE, Secretary.

Office, 434 California street, San Francisco. oc17

Hope Gravel Mining Company. Location of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifth day of October, 1868, an assessment (No 26) of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 25 Merchants' Exchange, California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on Tuesday, the tenth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirtieth day of November, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary.

Office, No. 25 Merchants' Exchange, south side of California street, between Montgomery and Sansome streets, San Francisco, California. oc10

Kensarge Mining Company, Kensarge Dis- trict, Inyo County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the eighteenth day of September, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificates.	No. Shares.	Amount.
Alberding, F H	44, 45, 46, 47	79	$79 00
Bliss, D L	18	20	20 00
Gillig, Mott & Co	14	75	75 00
Grhn, A K	33	206	206 00
Gray, T C	50	20	20 00
Gillig, Mott & Co	not issued	100	100 00
Gillig, John	not issued	85	85 00
Hastings, D L	98	100	100 00
Leet, W N	17	215	215 00
Mor an, J	not issued	308	3 9 00
Sunderland, Thos	3	285	285 00
Van Gordner, C H	16	559	559 00
Winters, John B	15	559	559 00

And in accordance with law, and an order of the Board of Trustees, made on the eighteenth day of September, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, Cal., on the tenth day of November, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINCARD, Secretary.

Office, 408 California street, San Francisco. oc24

ASSESSMENT NOTICE.

Notice is hereby given, that an assessment of one dollar per share on the stock of the NEVADA COUNTY GOLD MINING COMPANY is due, and payable at the office of the Company, No. 9 Merchants' Exchange, San Francisco, within thirty days from date. Any of the above stock upon which said assessment shall remain unpaid on Saturday, the 19th day of December, 1868, will be sold at public auction, at the office of the Company, as above, at 12 o'clock, noon, in accordance with law and per order of the Board of Trustees.

W. AUG. KNAPP, Secretary.

San Francisco, Oct. 19th, 1868. oc24

Providence Gold and Silver Mining Company, Nevada County, California.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the eleventh day of September, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount
G M Bowne	15	12¼	$ 5 10
G M Bowne	15	15	30 00
G M Bowne	107	25	50 00
O M Bowne	109	35	70 00
G M Bowne	119	75	150 00
W F Bowne	105	20	40 00
W F Bowne	106	10	20 00
W F Bowne	118	22	44 00
W F Bowne	120	25	50 00
W F Bowne	112	10	20 00
John S Carter	100	20	40 00
John S Carter	101	20	40 00
John S Carter	115	10	20 00
Phebe E Carter	107	5	10 00
Peter M Cain	170	10	20 00
Wm Davis	166	10	20 00
Wm Davis	163	20	40 00
Wm Davis	2-9	5	10 00
Thatcher Emery	83	3	6 10
Thatcher Emery	90	3	6 00
Thatcher Emery	214	5	10 00
A Folsom	9	50	100 00
A Folsom	13	5	10 00
B J Hull	145	10	20 00
H S Huntington	54	50	100 00
H S Huntington	87¼	175	00
Chas Hanson	36	10	20 00
Chas Hanson	83	10	20 00
Chas Hanson	131	20	40 00
Chas Hanson	172	5	10 00
Abm Hall	18	12½	25 00
Abm Hall	141	10	20 00
Abm Hall	2-5	10	20 00
Abm Hall	206	5	10 00
Wills & Evans	135	6	12 00
J Mulcahy	155	8	18 00
H T Thoburn	98	2	4 00
H W Taylor	2-4	10	20 00
H W Taylor	203	15	30 00
A Walrath	144	20	40 00
A Walrath	88	4	8 00
A Walrath	215	5	10 00
A Walrath	276	45	90 00
N C Walton, Jr	273	100	200 00
N C Walton, Jr	274	100	200 00
N C Walton, Jr	275	90	180 00

And in accordance with law, and an order of the Board of Trustees, made on the eleventh day of September, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at their salesrooms, No. 426 Montgomery street, San Francisco, on Thursday, the fifth day of November, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. BUFFINGTON, Secretary.

Office, Room 37 New Merchants' Exchange, California street, San Francisco. oc24

Rippon Gold and Silver Mining Company.— Location of Works: Silver Mountain District, Alpine County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifteenth day of October, 1868, an assessment of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 37 Stevenson street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the nineteenth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the eighth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

P. CARROLL, Secretary.

Office, No. 37 Stevenson street, between First and Second streets, San Francisco. oc24

Rattlesnake Gold and Silver Mining Compa- ny, Brown's Valley, Yuba County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirteenth day of October, 1868, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eighteenth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the seventh day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary.

Office, 318 California street, San Francisco, Cal. oct7

Washington Mining Company.—Location of Works: Nevada County, California.

The regular Annual Meeting of this Company, will be held on SATURDAY, the SEVENTH DAY OF NOVEMBER, 1868, at one o'clock P. M., at the office of the Company, No. 318 Front street, San Francisco.

JOHN J. SCOTCHLER, Secretary.

San Francisco, Oct. 10, 1868. oc10

Machinery.

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For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has everre-quired repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

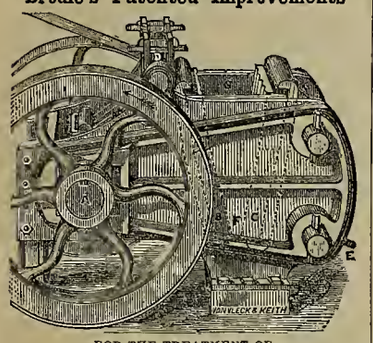
The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Sellers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and com pletely absorbed.

Mill men are invited to examine these pans and setlers for themselves, at the **PACIFIC FOUNDRY,**

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No. 1—Or 9-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price.....$600

No. 2—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour..... 850

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These Crushers have been erected at several mines in the State of Nevada, and others in Calaveras, Tuolumne and Mariposa counties, to whom applicants can be referred as being the most efficient, cheapest, and least weight compatible with strength and durability, of any Crusher yet erected.

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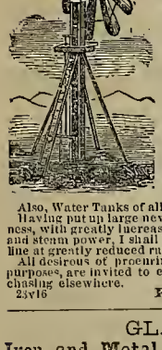
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Corner First and Mission streets, or Box 2,077

8v13f SAN FRANCISCO.

REMOVAL.



E. O. HUNT'S

Manufactory of

Windmills, Horse-Powers and Pumps,

Has been removed from the old stand on Second street, to

114 and 116 Spear st.,

Next above Stuart and south of Mission st, San Francisco.

Hunt's Patent Wind-Mills, Tread Horse-Powers, Sweep Horse-Powers, (for one or four horses), Sawing Machines, Pumps of all kinds for shallow or deep wells,—including Hunt's Submerged Pump, Hunt's Globe Pump, and Hunt's Single and Double-Acting Pump.

Pumping Machines and general Machinery kept constantly on hand and built to order.

Also, Water Tanks of all sizes.

Having put up large new buildings specially for my business, with greatly increased facilities in the way of room and steam power, I shall be able to build everything in my line at greatly reduced rates.

All desirous of procuring water for irrigating or other purposes, are invited to examine my articles before purchasing elsewhere.

2tv16 **E. O. HUNT, Proprietor.**

GLASGOW
Iron and Metal Importing Company

Nos. 25 and 27 Fremont street,

SAN FRANCISCO,

Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings, which they offer to the trade on liberal terms.

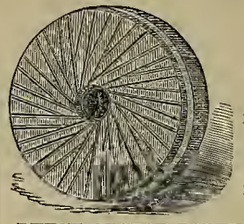
21v16 3m W. McCRINDLE, Manage.

Fire, Hose and Machine Belting.

THE SUBSCRIBER CONTINUES TO MANUFACTURE Oak Tanned Leather Fire Hose, warranted superior to Eastern Hose, manufactured at the Sixth Street Tannery, San Francisco.

21v16tf JOHN J. FULTON.

C. F. TRAVIS,



Manufacturer of

FRENCH

BURR

Mill-Stones,

AND

PORTABLE

MILLS.

Agent for

Dufour & Co's

Celebrated

DUTCH ANCHOR BOLTING CLOTHS.

Mill Picks, Mill Picks Dressed, Mill-Stones Repaired and Rebuilt; Mill-Stones Balanced with Fellenbaum's Patent Balance, of which I am sole Proprietor for California, Oregon, and Washington Territory. C. F. TRAVIS,

5v16tf 109 Mission street, San Francisco.

Belting and Lacing.

AN ENTIRELY NEW AND SUPERIOR ARTICLE OF exclusively mechanical preparation, made to order on short notice, and for sale by H. ROYER, at 435 Brannan street, between Third and Fourth. Refers to Elson Bros., Pioneer Mills; Martin Steen, National Mills; Horace Davis, Golden Gate Mills; also, N. W. Spaulding, Saw Manufacturer. 6v16-3m

IMPORTANT TO WOOD WORKERS.

GEAR'S COMBINATION
PATENT
Variety Molding and Planing
MACHINE.

THIS STANDARD MACHINE IS INDISPENSABLE IN any establishment working Wood by machinery. Recent great improvements render it complete for

All kinds of Irregular and Straight Work

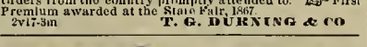
in hard or soft wood, Straight, Waved, Circular and Elliptical Moldings, Spiral Work, and all Irregular Forms, thus saving to the mechanic the cost of several machines to effect the purposes accomplished by this alone. It does not stop at cutting the edges and sides of timber, but operates equally well upon the ends, cutting them into any required form with the same facility that it does the sides. Any shop without it lacks one of the most USEFUL AND PROFITABLE TOOLS now used. It is worthy of the attention of all HOUSE, CARRIAGE, SHIP, BOAT and CAR BUILDERS, FURNITURE and CABINET MAKERS, MILL PROPRIETORS, PATTERN MAKERS, etc., and to all others who desire to make a profitable business from a small investment. Every machine is thoroughly tested at the manufactory and warranted. Further information furnished on application. FULLER & CO.,

Manufacturers' Agents for the Pacific Coast, 109 Montgomery street, San Francisco. 17v17-3m

PACIFIC FILE WORKS,

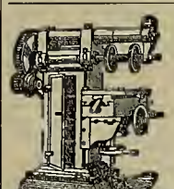
No. 53 Beale Street, bet. Market and Mission,

SAN FRANCISCO.



Files Re-cut and warranted as good as new, with a saving of fifty per cent. REAPER AND MOWER SECTIONS MADE TO ORDER. The only establishment on the Coast. Orders from the country promptly attended to. First Premium awarded at the State Fair, 1867.

2v17-3m **T. G. DURNING & CO**



Standard Milling Machine.



Pipe Vise, with or without Extra Jaw.

UNION VISE COMPANY,
OF BOSTON, MASS.

Extra jaw, and heavy Vises, Warranted for heavy work. New style Wood and Covered Screw Vises, forty styles and kinds; Standard Milling Machines, simple, great capacity, power and strength—two sizes, large, 2,300 lbs; small, 950 lbs. For sale by the trade.

23v16-1y G. H. NOTT, Pres.

FOR SALE,
BY STANFORD BROS.,

DEVOE'S COAL OIL, PARAFINE OIL, MACHINE OIL, Lard Oil, China Oil, Neats Foot Oil, Sperm Oil, Boiled Linseed Oil, Alcohol, Polar Oil, Tanner's Oil, Elephant Oil, Pinnacle Oil, turpentine, Oil Soap, Crude Petroleum, Lamp Stock of all kinds, GASOLINE, Gravity 84, NAPHTHA, Gravity 65 and 71. Also, GRANT'S CANDLES, in lots to suit.

10v17-3m

IMPORTANT TO LUMBERMEN.

ANDERSON'S
Patent Mulay Saw Hangings.

These Mulays will cut FIFTY PER CENT. MORE LUMBER PER DAY than any other Mulay in use, with fifty per cent. less power. They are very durable, and easily kept in order, and warranted to give satisfaction. No Mulay Mill should be without them, as they will pay for themselves in a very short time. No other mode of manufacturing Lumber can compete with the Mulay Saw with this improvement. Send for circular. FULLER & CO.,

Manufacturers' Agents for the Pacific Coast, 109 Montgomery street, San Francisco. 17v17-3m

PATENT OFFICE REPORTS, from 1843 to 1847, MECHANICAL are wanted for duplicate copies at this office. Parties having them for sale will please state price, and address DEWEY & CO., Mining and Scientific Press office, San Francisco.

HYDROSTATIC WORKS.





SAN FRANCISCO

Pump Manufactory

And Patent Water Closets.

M. D. LASSWELL,

No. 747 Mission Street, bet. Third and Fourth.

House Plumbing and Gas Fitting in all of its modes. Lead, Iron and Copper Piping fitted for water, steam and gas. Ship Plumbing, and Ship Pumps made and repaired. Hose of all sizes, Couplings and Nozzles, Hose and Hose Stands, and all kinds of Brass Cocks. Force, Lift and Suction Pumps of all sizes made and set to order.

I am now prepared to make all kinds of Pumps for miners and for irrigating in a large way. I am making four sizes of single acting Brass Pumps, similar to the Baden & Sanders Brass Pumps. I am also making a very superior Pump to any in this market for windmills, single-acting. I am making four different kinds of double acting Force Pumps, and different sizes of each kind. I am also making Artesian Well Pumps of a superior kind. This Pump may be lowered in any well to any depth desired. It is a force pump, or it is a suction pump, or it is a lift pump, and may be worked by hand or windmill, or any kind of power. Can be used for oil wells better than any other, and the Pump is the most durable and easiest repaired of any Pump in the country

I have invented and am making a superior double-acting Force Pump, called the GOLDEN STAFF, which has great advantages over any Pump in this State. It is the easiest Pump repaired, and is the most durable of any Pump in the pump kingdom.

I his Pump received the **Silver Medal** and highest premium at the Mechanics' Fair; also the highest premium at the late State Fair. At the San Jose Fair my Hydraulic Force Pump received the First Premium, and four other Pumps each a diploma.

Any one in want of a Pump or anything in my line, will do well by calling at my place before purchasing elsewhere.

I also keep all kinds of DOUGLASS and other makers' Pumps on hand. 11v17-1f

NELSON & DOBLE,

AGENTS FOR

Thomas Firth & Sons' Cast Steel, Files,

Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks,

Stone Cutters', Blacksmiths' and Horse-Shoers' Tools,

319 and 321 Pine Street,

Between Montgomery and Sansome, San Francisco.

1uv14qr

Notice to Miners,
Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG,

8v13-1y Stove Store, No. 125 Clay street, below Davis.

ELASTIC SPONGE,

A SUBSTITUTE FOR

CURLED HAIR,

—FOR—

ALL UPHOLSTERY PURPOSES.

Cheaper than Feathers or Hair,

AND FAR SUPERIOR.

THE LIGHTEST, SOFTEST, MOST ELASTIC, DURABLE and best material known, for Mauresses, Pillows Cushions, etc. It is entirely indestructible, and its purity is almost immaculate. No moth, no smell, no dirt. It does not pack at all. Is always free from insect life; is perfectly healthy; and for the sick is unequalled by any bed in the world. Special attention given to furnishing Churches, Halls, etc. Satisfaction guaranteed.

W. R. STRONG,

General Agent Pacific Elastic Sponge Company, 617 Market street, San Francisco. 19v16 6meow

MEUSSDORFFER,

HAT MANUFACTURER

And dealer in

Hats and Caps

AT WHOLESALE AND RETAIL.

635 and 637 Commercial street.....San Francisco.
125 J street.....Sacramento.
Corner of B and Second streets.....Marysville.
72 Front street.....Portland, Oregon.

Our wholesale House, 628 Commercial street, extending through to 637 Clay street, San Francisco, contains always a most choice, and the largest, assortment in this State. Every Steamer brings the latest issued novelties from Europe and New York, which can be found at all the above stores, at moderate prices. 23v16-3m

NOTICE.

On and after this date, all parties on the Pacific coast manufacturing, using, or selling

Dunbar's Patent Piston Packing,

must obtain a License for the same from the undersigned, or they will be subject to the penalties of the law.

H. S. SMITH,
Ætna Iron Works.
San Francisco, August 15th, 1868. 7v17-3m

STOCK CERTIFICATES,

STOCK TRANSFER JOURNALS,

STOCK LEDGERS,

ASSESSMENT RECEIPTS,

And all other Blanks, Blank Books, etc., required by Mining and other Corporations, kept on hand or printed to order on short notice, at moderate prices, at the office of the *Mining and Scientific Press.*

SUBSCRIBERS who do not receive the *Mining and Scientific Press* in due time, are requested to inform the publishers.

[Written for the Mining and Scientific Press.]

Mining in Sierra County.

INDEPENDENCE QUARTZ MINE AND MILL.

This mine is situated on Wolf Creek, about twelve miles southeast from Downieville, and three miles above the formerly well-known rich "Fellows ledge." The first work was commenced in 1865, by starting a shaft on the ledge which is now seventy feet deep. The ledge stands nearly perpendicular. On the bottom of the shaft are two drifts on the vein, one southeast sixty feet long, the other northwest, about twenty feet long. The ledge is seven feet wide. About 150 feet from the first shaft another one is started. The ledge lies in talcose slate and granite, the slate on the hanging wall carrying much free gold. A new mill of eight stamps is erected, and started to work since the 15th of last month. The company will soon make a clean up, and to all appearance it will be a rich one. The members of the company are all Downieville men.

THE PHŒNIX LEDGE

is situated about three miles above Sierra City, and one mile east of the famous Sierra Buttes mine and mills, a little above the flume of Reis' mine. The Phœnix Company located five claims of 200 feet each. The ledge runs east and west, is from two to three feet wide, and stands about eighty-five degrees into the hill. An inclined shaft is sunk to ninety feet on the ledge, which is at the bottom three feet wide. The ledge to this depth has no water. The ore is very rich, showing much free gold. The company built a trail down to the river, and are packing the ore on mules. They erected at the river a prospecting mill of one battery of four stamps, worked by water-power, and secured the water-right for a large mill. Seventy tons of ore, the first crushing of this vein, yielded $2,400, and about 100 tons of ore are now out and ready at the mill for crushing, promising similar good results. The ore is very easily worked. One of the owners sold recently fifty feet for $3,000. The controling interest of six-tenths could possibly be bought for $20,000, of the owners, F. Funot, and Martini, at Downieville. Should this vein prove to be a fissure vein, which to all appearance can be expected, this might turn out a worthy neighbor to the famous Reis mine at the Sierra Buttes.

THE SIERRA BUTTES MINE.

This mine (Reis & Co.) is well known as one of the richest in California. It is paying regularly about $40,000 at each clean up, every six weeks. The company own two mills, one of sixteen stamps, the other of twelve stamps, without any of the modern improvements, and the pulp leaving the mills is worked by twenty arastras, on shares, of which the upper eight pay to the Reis Company one-fourth of the yield; the following five arastras pay one-fifth of the yield, and the lower seven pay $40 per month.

How incomplete this system of working is can easily be ascertained by testing the pulp after the same leaves the last arastra. The sulphurets assay from $300 to $400 per ton, and a fortune is lost in that way; the men renting these arastras becoming wealthy. The company owns three ledges, the Sierra Buttes, the Rose, and the Cliff ledge, of which the Rose ledge is the richest. If this mining property should be worked in the style of the Grass Valley mines, it would probably prove *the richest* mine in California. But the present owners do nothing but pocket the yield. There is not even a wagon road to the mine, and the county of Sierra has no more benefit from the mine than the little pocket money the workingmen spend by coming into town. It is well known that the owners of this rich mine do not even encourage the investment of capital in Sierra County mines, believing that there is no other mine of any value besides their own. But the time will come when the attention of capitalists will then be more directed to Sierra County. J. B. S.

GORGEOUS.—The Aurora Borealis, in its mysterious grandeur, was, on the night of the 16th ult., beheld by many. Its brilliant and symmetrical arches spanned the heavens from southwest to northeast, illuminating the spacious firmament with the halo of its glory.—*Alaska Times.*

OUR GREAT WORKSHOPS—THE "COMING" RICH MEN.—We clip the following from the *American Railway Times:* "Slowly but surely, the mechanical establishments of the United States are developing into proportions that rival the largest of those on the other side of the Atlantic ocean. Within the past six years, several of our locomotive manufacturing establishments have doubled their production, and are still enlarging their shops and increasing their force of men and machinery, while new establishments have been started and are proceeding onward with success. The same is true of our steel manufacturing, a business that is as yet but in its infancy in this country. It will not be many years before we shall have steel works that shall equal in extent and annual production even those of Krupp, Petin Gaudet & Co., Bessemer and others. We see the indications of this result in the extensive plans of the managers of these works, the rapid and easy increase of capital employed, and the increase in the quantity of skilled labor in this department, both from immigration and from educated home supply. In the manufacture of machinery and machine tools, there are several establishments that in extent of production and goodness of workmanship, are fully equal to the best in other countries. The same is true of several of our rail making establishments, some of them turning out from 70,000 to 80,000 tons per annum. With our 38,000 or 40,000 miles of finished railway, with iron ores and coal of the best quality in abundance, and a constant increase of from 1,000 to 2,000 miles of railway per year, it is not at all wonderful that rail manufacturing establishments should flourish, especially when it is considered that at least twelve per cent. of the whole mileage has to be re-ironed annually. No country in the world pays its labor, its skilled labor especially, so generously as the United States, and young men who are now leaving their schools, and other institutions of learning, ought to remember that by enlisting in the army of productionists, especially in the mechanic arts and metal departments, they have the best and strougest assurance of ultimate success. Give up the shop counter and yard stick to those who from bodily infirmity can not do better, and let every able-bodied young man prepare to do a man's work in developing and perfecting the great industrial interests of the country, certain that intelligent labor and application will bring all the reward that men desire—wealth, position, and influence. The field is broad and the harvest sure to all those who wish to labor therein."

AMERICAN STEAMBOATS "NO GO" IN SOUTH AMERICA.—A correspondent of the *N. Y. Evening Post* writes thus from Para, Brazil:

Why is it that Americans, who build the fastest and the best steamboats in the world, have no orders for river steamers from South America? This question is easily answered. Sixteen years ago the Peruvian government wanted steamboats for the upper Amazon. A couple of New Englanders contracted for those steamers and made them "to sell." The boats soon went to pieces; and so evident was the cheat that for a long time the government refused to pay.

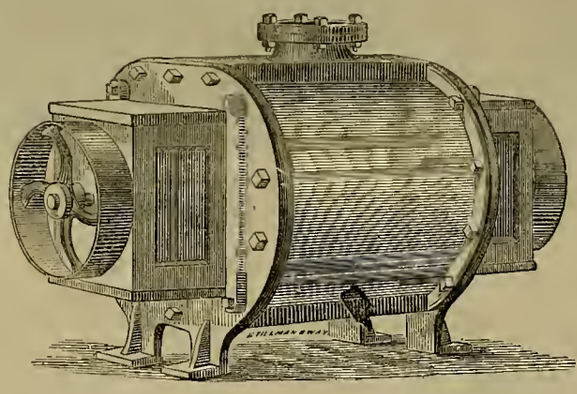
Brazil began steam navigation on her part of the Amazon, in 1853, and sent to England for her steamboats. Upon my inquiry, "Why not go to the United States for river steamers? the answer would inevitably be, "Oh, American steamers. we have had enough of them on the Amazon!" So to-day you will ascend the great river in hybrid concerns between a sea steamer and a river steamboat, but possessing the good qualities of neither. They are hot; the machinery so arranged that space and comfort are sacrificed to an astonishing degree. They were built by Mr. Laird, of Birkenhead, the same who constructed the Alabama.

A NEW BIT OR AUGER.—We were shown at the furniture shop of C. W. Schwamb, the other day, a new invention in the way of a bit or auger, which is one of the most complete things we ever looked at. It is called the "Expansion Bit," and will bore a smooth cut hole any size from seven-eighths of an inch to three inches. The "stock" is of good steel, and at the point it has a finely cut thread and cutter. Just above the cutter is a hole in the stock, in which is inserted and made firm by a small screw a sharp steel additional cutter with a highly finished lip, and this can be graduated to any size by a scale marked in one-sixteenths of an inch all along the slide. The bit is the invention of a man named Clark, of Connecticut.—*Idaho World.*

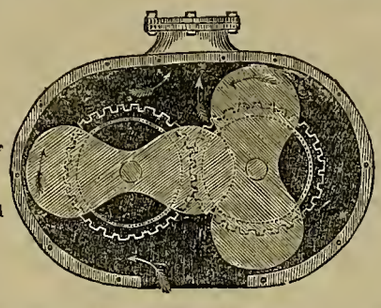
ROOT'S PATENT FORCE BLAST ROTARY BLOWER.

Patented Nov. 1st, 1864; July 24, 1866; and Oct. 9, 1866.

Awarded the First Premium at the Paris Exposition.



ADAPTED FOR **Smelting, Foundry, Mining and Steamships.**



REQUIRES **Fifty Per Cent.** LESS POWER **Than any Blower** Now in use.

One of these Blowers may be seen on exhibition at W. T. Garratt's Brass Foundry, corner of Mission and Fremont streets. They are also in use at the Almaden Quicksilver Mine; Gridley's Foundry, Gold Hill, Nevada; Ætna Iron Works, San Francisco, and many other places.

CAUTION.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.

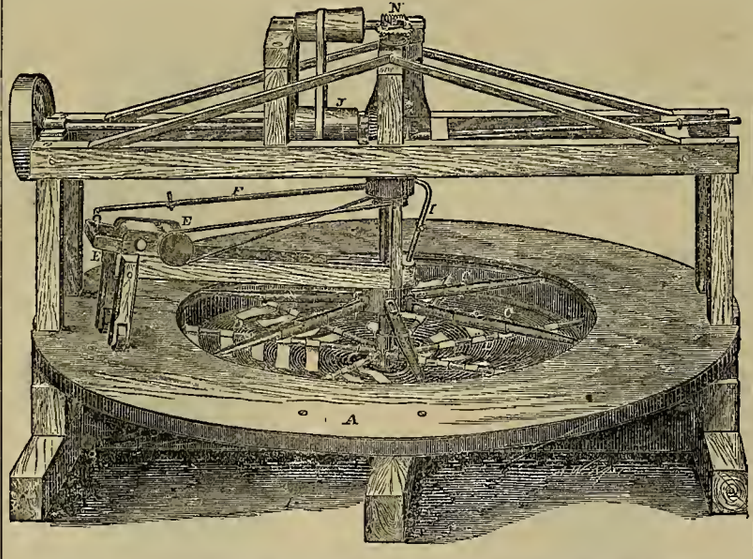
For circulars and further information, address

KEEP & BARGION,
Globe Iron Works, Stockton, Cal.

4v16 3m

PAINE & STEPHENS' IMPROVED CONCENTRATOR,

For Saving Gold and Silver Sulphurets.



This invention, a perspective view of which is given above, consists in applying machinery to the ordinary buddle, and rendering the same automatic in action. It is calculated to do a large amount of work.

One Machine, costing about $1,400, is sufficient to work the Sands from 25 to 30 Stamps. But very little power is required.

It can be easily run by one man turning a crank. The principle on which it works is entirely dissimilar from any other machine now used on the Pacific Coast; although it is in almost universal use in Europe; but not so arranged there as to be automatic in action.

The illustration given herewith, was fully described in the Mining and Scientific Press of March 21, 1868.

One of these machines may be seen in constant operation at the Eureka (Watt's) mine in Grass Valley, where it is giving the fullest satisfaction, and is working all the tailings from thirty stamps. Another machine may be seen at the Banner mill, in Nevada, and a third below the Gould & Curry Company's mill, near Virginia City.

For further information, apply to THOMAS N. PAINE, Grass Valley, California.

PAINE, STEPHENS & HARRY.

13v16eow

Metallurgy.

KUSTEL & HOFMANN,

Metallurgists and Assayers.

Gold and Silver Bullion Assayed.

MINERAL ASSAYS & ANALYSIS MADE.

611 Commercial Street, San Francisco.

SILVER AND GOLD ORES worked in small lots up to hundred pounds, by Chlorination and other methods.

18v16-tf

JOHN TAYLOR & CO.

IMPORTERS,

AND DEALERS IN

ASSAYERS' MATERIALS,

Druggists' & Chemists' Glassware

Photographic Stock, Etc.

512 and 514 Washington Street,

SAN FRANCISCO.

WE are receiving direct from MESSRS. LAND & OERTLING (London) and BEEKER & SONS (Antwerp, Belgium) their superior

ASSAY AND BULLION BALANCES,

And from France and Germany, as well as the Eastern States, FURNACES, CRUCIBLES, MUFFLES, BLOW-PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, etc. We have given this branch of our business particular attention, to select such articles as are necessary in the development of the mineral wealth of this coast.

A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' SUNDRIES, ACIDS and CHEMICALS, constantly on hand.

San Francisco March 6, 1865 11v10-tf

PROF. HENRY WURTZ,

Formerly Chemical Examiner in the U. S. Patent Office, may be employed professionally as a SCIENTIFIC EXPERT. Geological Examinations and Reports, Analysis and Assays, etc., etc. Practical advice and investigations in the Chemical Arts and Manufactures. Invention and examination of new chemical methods and products. Address, 26 Pine street, Rooms 35 and 36, New York. Always in from 12 to 3.30. ☞ Written communications preferred.

Important to Gold and Silver Miners and Companies.

PROFESSOR WURTZ,

Who is the inventor and Patentee of the new and wonderful uses of SODIUM IN WORKING GOLD AND SILVER ORES AND JEWELERS' SWEEPINGS, will furnish at the above address information in relation thereto, together with experimental packages of

SODIUM AMALGAM.

All instructions and experiments elsewhere obtained are spurious and unreliable. WORKING EXPERIMENTS ON AMALGAMATION OF ORES, Etc. Prof. W. has in operation in New York a large and small Hepburn Pan, for working 1,000 or 20-lb. charges of material for experimental purposes. 3v17

G. W. STRONG,

ASSAYER AND WORKER OF ORES,

No. 10 Stevenson street, near First, San Francisco.

Highest price paid for choice lots of Ores, Sulphurets, Assay Ashes, Sweepings, etc., etc. Students instructed in all branches of Metallurgy, on liberal terms.

14v15qr.

THE GOLDEN ERA.

Founded in 1852, it is the oldest Weekly Paper in the State, permanently established, and more widely circulated at home and abroad than any other on the Pacific Coast. In California, the Atlantic States, and throughout the entire field of its great and rapidly increasing circulation, THE GOLDEN ERA is universally regarded as a Literary and Family Journal of unequalled excellence. Among its contributors are all the best writers on this side of the Continent.

THE GOLDEN ERA

is the most universally popular of all the Weekly Journals. It presents forty-eight columns, containing the greatest possible variety of Valuable and Entertaining, Original and Selected matter. It is a welcome guest in Cottage and Cabin; the favorite at the fireside in city and country; the most useful, agreeable and altogether desirable publication for California readers and their kindred and friends in the Atlantic States, Europe and elsewhere. Every household in the mountains and valleys, the cities, towns and mining camps of California, and throughout the Pacific States and Territories, should receive and welcome THE GOLDEN ERA as a regular weekly visitor. Inspired with the genius of the age, it is progressive, and aims not so much at distinction as a newspaper, as at honorable success in its capacity of a great Moralizing and Improving influence. Exercising a positive power for good, and wielding a permanent influence, many able and eminent writers choose its columns as a means of communicating with the public. No effort will be spared to make it a thoroughly California newspaper, and worthy of the support of all classes of our citizens.

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BROOKS & CAPP,
11v1 San Francisco.

Our Patent Agency.

The PATENT AGENCY of the MINING AND SCIENTIFIC PRESS has been signalized with remarkable success during the past few years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of LETTERS PATENT from the United States and foreign Governments cannot be over-raised, and the Proprietors of the PRESS, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

Contributions for our Cabinet.

Under this heading we shall continue to mention and describe, according to merit, such specimens of ores, minerals, fossils, curiosities, etc., as may be presented, or forwarded to us by mail or express, prepaid. Each article will be numbered and placed in our cabinet, and recorded with the name of the donor, and the claim or location from whence it came.

No. 280.—Schorl, Napa County. It contains no iron, and becomes colorless before the blow-pipe.

No. 281.—Greenstone porphyry, with hornblende crystals, which resist decomposition longer than the ground mass, leaving the rock covered with an apparent growth of black moss-like crystals. P. A. Haven, Gold Lake, Sierra County.

No. 282.—Polytellite, or silver fahlerz, more generally known as argentiferous gray copper. Cloud ledge, Flint district, Owyhee.

No. 283.—Antimonial sulphuret of silver, from Allison lode, Ryerson district, Owyhee. There are four different antimonial sulphurets of silver, one red, Pyrargyrite; and three black, containing different proportions of silver to the sulphuret of antimony, viz: *Miaryrit*, or Clinorhombic brittle silver 1 to 1; *Stephanite*, or rhombic brittle silver, 5 to 1; and *Polybasit*, or hexagonal brittle silver, 9 to 1, respectively. This is Miargyrite, being rhombic in crystallization, and giving a dark cherry-red streak.

Home Manufacture of Gunpowder.—The Mechanics' Institute Committee of gunpowder,—Messrs. Haley and Pippy,—in making their examinations, did not subject to proof the samples of powder exhibited at the Fair, but went to the different magazines, and themselves selected samples from packages destined for the trade. The various samples thus obtained, embracing sporting, cannon, musket, and blasting powder, were subjected to divers proofs, the chief of which, and that upon which they most relied, was with the "Eprouvettes" mortar, charged with one ounce of powder and a 24-pound ball.

They report that the superiority, on the whole, rested with the California Powder Works, and therefore recommend an award of a gold medal to that company, and a silver medal to the Pacific Powder Mills.

Long hair, in Paris, costs one hundred and ten francs per pound, while a short article is worth only from eighteen to twenty francs. Germany furnishes fair hair—South America, black. False white hair is most difficult to obtain. A Paris chemist has been trying to produce it from colored hair, but has hitherto only succeeded in making gray hairs.

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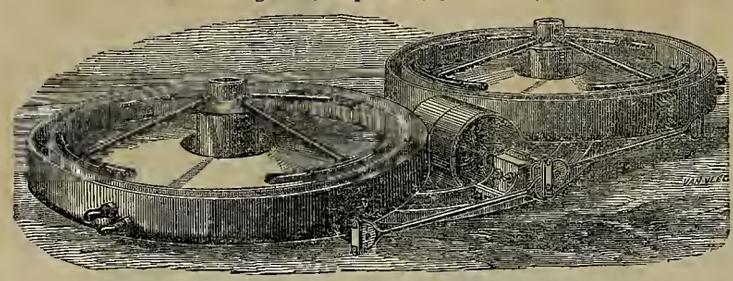
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Office of the Oneida Mining Company, Jackson, May 13th 1868

Mr. Morgan Hungerford—*Dear Sir:*—In regard to the four Hungerford Concentrators that I bought of Messrs. Goss & Lambard last month, I will say that I put them up in the Oneida Mill soon after I arrived here, and find that they save sulphurets well and clean, and work to my entire satisfaction. I have tried many other concentrators, but these stand up and work better than any others I have used. I have ordered Messrs. Goss & Lambard to make eight more for me as soon as possible. Very truly yours, JAMES MORGAN.

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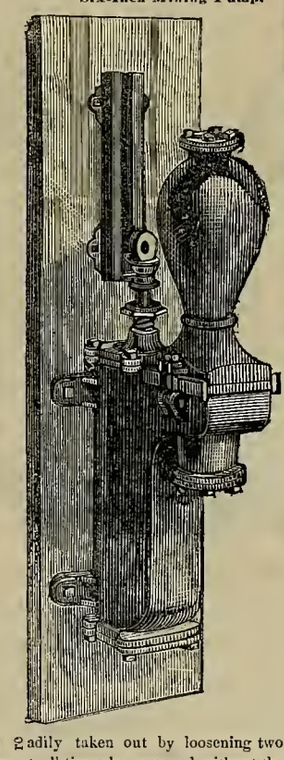
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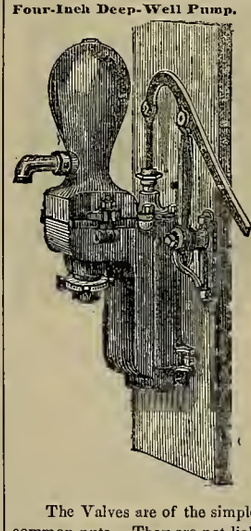
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BY DEWEY & CO., Patent Solicitors. SAN FRANCISCO, SATURDAY, NOVEMBER 7, 1868. VOLUME XVII. Number 19.

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MINING SUMMARY—Comprising late intelligence from the various counties and districts in California, Arizona, Colorado, Dacotah, Idaho, Montana, and Nevada.
Notices to Correspondents.
Stock Prices—Bid and Asked.
New Incorporations.

IRIDESCENT OBJECTS themselves are devoid of color; bnt when they are subjected to the influence of white light, they absorb according to their individual characteristics one or more of the rays of one or more colors which form that light and reflect the rest, consequently any object appears of that color that results from the ray or mixture of rays which it reflects. For example, green objects ahsorb the red and reflect the yellow and blue rays; purple absorbs the yellow and reflects the yellow and blue ones. The rays so absorbed are said to be *complementary* to those which are reflected, a complementary color being always that tint which, when added to the primary color, would, upon the eye, constitute white light. The truth of the fact last stated may ho occularly demonstrated by placing any colored object in homogeneous light, such as that of an isolated portion of the spectrum. In this way a green object in the bluo rays will appear blue; if placed in the yellow ray it will appear yellow; and a white screen which has the power of reflecting all the colors, will take any tint in succession, which may be presented as the incident ray. An object of pure red, on the contrary, will appear black in any but the red ray, because it ahsorbs all the other colors as perfectly as charcoal, soot or black cloth absorbs white light or the rays of all colors.

RUSSIAN MINING INTERESTS.—Baron Von Koschkill, a geologist and mining engineer of Tiflis, Department of the Caucasus, Russia, is visiting the principal mining districts of the United States under orders from the Russian Government. He has examined the oil regions and coal fields, iron, lead and copper mines of the older States, and now proposes to examine the chief silver and gold sections of the Pacific. He will visit Twin River, Silver Bend, Hot Creek, and the White Pine region, and then come to California. A great deal of very valuable matter is collected in this manner, and is constantly in progress of publication under the auspices of the geological and other scientific societies of St. Petersburg,—in the French language. A first-class mining academy and large geological and mineralogical collections are established at St. Petersburg.

CHAS. W. FELT, of Salem, Mass., has gone to England to exhibit his type-setting machine.

Silver Ore Deposits in Dolomite.

The surest method of finding undeveloped wealth, is to know the nature of the article and the usual manner and situation of its occurrence. That silver ores do not occur in a hap-hazard way, but are governed by like conditions with like results in different parts of the world, no matter how distant these may he from each other, is a fact so well known by all who have paid the proper attention to the subject, that it should appear vain to repeat it. Yet there are many who forget that the principal ores of silver were mined and reduced two thousand years ago. We will not attempt to convince such that White Pine District is not the out-cropping of a genuine vein of erupted silver, which leads straight down to metallic baths in the earth's center—for

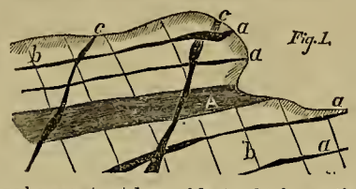


Fig. 1.

we have not yet been able to obtain a satisfactory diagram of the character of the deposits so far as opened, from individuals competent to judge and describe who have visited the ground; though we believe our last week's account furnished a correct idea of them, and it should only be added that silver glance, as well as chloride, was an important ore below the croppings.

Limestone, and dolomite (magnesian limestone, distinguishable by its being a degree harder,) have been found to be favorable matrices for the occurrence of silver veins and deposits, in many different parts of the world, especially in England and in Sweden. Even in Nevada, the method of occurrence in dolomite is not peculiar to White Pine, Hot Creek and Reveille districts appear to be about the same as White Pine, mineralogically as well as geologically.

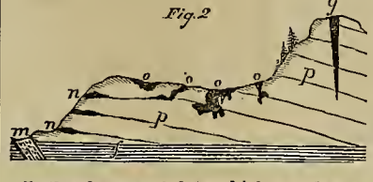


Fig. 2

In the absence of data which can be obtained only from deeper developments at White Pine, and properly illustrated by an authentic diagram, we will give an idea of the occurrences at Hot Creek and Reveille, as derived from information given to us by J. S. Phillips, M. E., who examined these districts minutely a year or more ago. Hot Creek, we are told, is in the same range of mountains as White Pine.

The limestone or dolomite p, p, is a pale bluish, dry, "ungenerous" crystalline metamorphic rock, having its strata distorted, and almost if not entirely obliterated. The silver deposits, o, o, consisting of argentiferous sulphuret of copper, silver glance, and sulphurets of silver and antimony, with croppings chiefly of chlorides, carbonates of copper, and other results of the decomposition of the foregoing, occupy curiously shaped pockets, veinlets and nests in the dolomite; q is a barren quartz vein on the summit of Pilot Knob, which can be traced down its sides, and observed to run to a point.

The locality n, n, is intended to show a variation in the character of these deposits, as seen at Reveillo District, where the pockets run in at the side of a hill, apparently along the lines of obliterated stratification, and may be called "floors"; m represents a dyke of porphyry or other eruptive rock, in which the ores are impregnated into the mass as well as occupying clefts and spaces. There are no valuable quartz ledges, our informant thinks, at Hot Creek.

An interesting comparison with the foregoing data may be made with the occurrences of lead and silver ores in Derbyshire, England. The country rock is dolomite, locally called metalliferous limestone, being geologically of the carboniferous Mountain Limestone formation, which is cleft in various directions by openings or caves, and interstratified with layers of trap ("toadstone"), A, believed by De la Beche to have been deposited as submarine lava flows. The Derbyshire miners distinguish three kinds of veins: *rake-veins*, c, c, which are true fissure veins, or filled-out cracks; *pipe-veins*, a, a, longitudinal deposits in the direction of stratification; and *flat-veins* or *skirns*, b, b, which are thinner deposits in fissures apparently like those seen in ordinary jointed structure of rocks. At the crossing of the thick vertical and the horizontal veins there are often bunches or chimneys. In the trap the veins are cramped, and the ores are worthless, the supposition being that the mineral ingredients of that rock reacted differently upon passing metalliferous solutions than was the case with the dolomite, where the metals were deposited. Besides argentiferous galena, the Derbyshire veins contain pyrites, zincblende, fluorspar, calcspar and quartz. Usually only the rake-veins, c, c, are worked. In other sections not far distant, where the dolomite is overlaid with Millstone Grit, the rake-veins are found as worthless as they are in the trap; so that mining is prosecuted only in solid beds of magnesium limestone.

In Cumberland and North Wales the circumstances are very nearly the same. Silver ores occur in dolomite or limestone also at Santander, in Spain; at Palliere, in France; at Sala, in Sweden; at Ichamserthal, in Switzerland; and at Ploscherken, in Corinthia, etc,

COST OF QUARTZ MINING IN AUSTRALIA.—Quartz that yields eight and ten dollars a ton gross, is estimated rich pay in Australia, and one and a half to two dollars a ton covers the average cost of mining, with its all its contingencies, according to the reports of government statisticians.

METEOR AHOY!—The great "Bolide" of Warsaw exploded fifty miles from the earth, and was supposed to possess a surface of two thousand acres. When first seen it appeared half as large as the moon, and never appeared larger until it struck our atmosphere and exploded. What was the cause of the explosion, and especially of an explosion so complete as to almost triturate the particles? Was it the density of the earth's atmosphere that broke it, or was the explosion due to the contact of certain gases of the meteor with the constituents of the air? Our atmosphere, at any rate, it would seem, may serve as a cuirass to the earth, to protect us from stray globes like that of Warsaw. The shock and the spring of the air must have counteracted, for it did not knock people down, or very perceptibly jar the houses.

The hight of a meteor above the earth can be very approximately ascertained by off-hand observations, taken by two individuals stationed some distance apart at the same instant, which is easily determined by the explosion; and the principle is ordinary triangulation, wherein the distance apart is the base. A vast extent of country was covered by fractions of this meteor—which certainly belonged, like all other meteors, to another sphere or center of gravitation than our own, whatever may have been the condition of its neighboring particles, whether gaseous, fused, or solid—because meteorites are a different combination of metals from anything known to belong "under the sun." It is believed that asteroids and other cosmical bodies, down to meteors in size, and "cosmical dust," of which the Germans are philosophizing, may be diffused through space much more extensively than we can be made aware of by vision, for obvious reasons. In regard to meteors, the same old problem is given to us which has been solved ten thousand times in equally difficult cases—to prove to our satisfaction and to a certainty the existence of that which we do not see with our eyes.

THE STATE TREASURER'S SAFE.—A very large Monitor safe, built with special view to security against burglars, was shipped a few days since to Sacramento. It is designed for the State Treasurer's office, and was put up at the Phœnix Iron Works, (Nos. 18 and 20 Fremont street,) at a cost of $3,600. It is constructed of alternate plates of 5-16-inch boiler iron and hardened steel. The bolts and rivets are headed on the inside, driven from the inside outwards while hot, and very firmly imbedded in the plates. The lock used is the well known Isham patent key register lock. There are twelve polished steel bolts on the inside of the doors, which fasten them when closed as firmly as the sides of the safe itself. These bolts, all thrown as they are by a crank on the outside, equal distances and at different angles, with the least possible degree of friction, show an accuracy of movement and a beauty of mechanism which are a credit to all concerned.

Lecture on Chemical Geology.

[Delivered before the Fellows of the Chemical Society, London, February 20, 1868.]

BY DAVID FORBES, F.R.S., ETC.

[Concluded from page 274.]

On the other hand, as it is admitted that the presence of water has had some share in igneous action in nature, and that many minerals found in plutonic rocks do contain small amounts of water, either entangled under pressure or in a state of chemical combination, it is advanced that this could not be the case if the igneous matter had really come from any receptacle or reservoir in the interior of the earth, since no water could reach such sources.

The very emission of vapor and the presence of water in some volcanic minerals proves that the water really had got down by some means, and I see no difficulty in accounting for the infiltration of water when the effects of capillary action and heat are taken into consideration. An excellent illustration of how this may be effected is afforded by a glance at the action of an ordinary Gifford's injector, so commonly used to force the water supply into high pressure boilers, in which case the very pressure, which under ordinary circumstances would prevent the entrance of the water, becomes actually the means of forcing it in.

Before concluding, I would, however, add a few words on a subject, which may almost be called the "bete noire," of geologists, namely, "metamorphic action," the study of which, intricate enough in itself, appears to have been rendered still more difficult and perplexing by the constant attempts to bring all the phenomena under one head, or in other words to ascribe to the action of one cause, results which are doubtless due to many very different agencies.

The study of metamorphism offers a wide field for exploration, especially to the chemist and microscopist—for the microscope is an indispensable instrument in these researches. Much however remains to be done, for but little is as yet satisfactorily demonstrated, and very many points of importance are still extremely obscure.

The results of metamorphic action are so varied and numerous, that the first step required seemed to me to be an attempt to classify the facts under the heads of the causes which are imagined to have influenced them.

A rough attempt resulted in the formation of six different classes:

1. By pressure alone.—Alterations by compression and induration, often inducing cleavage, as in clay-slates. This metamorphic change is truly mechanical, but occasionly a slight amount of chemical change (combination apparently) has taken place, which possibly might have arisen from the indirect conversion of mechanical into chemical action.

2. By heat alone.—Many soft beds, like shales and clays become strongly indurated and converted into porcellanite and similar products, in near contact with basaltic dykes, etc. The microscopic and chemical examination shows that, beyond the mere expulsion of the water, the change is similar to the baking of stone ware; such rocks *in situ* are found to be generally more compact from being at the same time subjected to more or less pressure.

3. By heat in conjunction with chemical action and crystallization.—When in the last-mentioned case, the rock may contain substances which might unite with one another to form new compounds, this is frequently found to have taken place. Thus, if a calcareous and ferruginous shale or clay be subjected to a heat much below fusion, whether in nature or artificially, we have a complete change in its appearance and mineral composition, produced by the recombination of its constituents, and the formation of new minerals, such as, for example, epidote and garnet, both of which are silicates of alumina, iron, and lime. These reactions explain how extremely common it is to find such minerals developed in the rocks at the point of contact with igneous eruptions, as most of the sedimentary rocks contain the constituents silica, alumina, lime, and sesquioxide of iron which enter into their composition.

When in these cases, pressure constant, but not necessarily great, is also brought into play, we may produce artificially most striking results, as will be seen by examination of the specimens here exhibited, which show the conversion of ordinary clay slates, some of them slightly chloritic and micaceous, into a rock much resembling some natural schistose, or gneissic rocks.

These were produced by keeping the rocks exposed to a heat below their softening point for several months, whilst they were protected from oxidation and subjected to a pressure varying from about 77 pounds to 15 pounds per square inch. If fusion or softening takes place, all structure is not only at once obliterated, but new reactions are called into play, resulting in the production of quite different chemical compounds in the fused product. The parallel structure was found to become developed at right angles to the pressure, or in other words, in the lines of least resistance in the rock.

Another specimen of rock shows the effect of similar treatment upon a block of compact soapstone, which, as will be seen, has been greatly changed in appearance, now possessing a finely developed foliated structure, with large crystalline plates or leaves. In this case it is probable that the effects are entirely due to recrystallization; and to a similar cause may be attributed the formation of many of the metamorphic crystalline limestones and marbles, when the contact with igneous eruptions may have heated them sufficiently to bring about such molecular changes.

4. By aqueous action, either inducing crystallization, by introducing or dissolving out certain mineral substances, by forming hydrated compounds with others, or by effecting chemical changes through the agency of the gases or solids, or both, held in solution by the water, all of which effects may be more or less assisted by heat and pressure.

The simplest example of this action is seen in the destruction and obliteration of the structure of organic limestone, which may thus be converted into crystalline rock, showing no trace of their original origin. Thus can be explained the veins of crystallized calcite which are found in modern coral reefs. Infiltration of water holding carbonate of lime in solution will account for the formation of calcareous sandstones, grits and tuffs, and the filling up of the pores of many vesicular rocks and lavas with carbonate of lime, whilst the reverse effects would follow from such rocks being subject to the action of waters which could dissolve out such bodies previously existing in the pores of rocks. Certain zeolites or hydrated silicates in rocks may have been formed by the water entering into chemical combination with previously anhydrous silicates, and on the table is seen a specimen of the noted example of this action from the ancient Roman aqueduct at Plombiéres. Again by the chemical reactions between the constituents of the rock and the compounds held in solution in waters which infiltrate into and permeate through rock masses, great changes may be effected. Many of the magnesian limestones and dolomites appear to have been thus formed, from limestones of true organic origin, by the action of solutions containing magnesia. Other similar limestones have been converted into ironstones by the analogous reactions with solutions containing iron, as in the case of the Cleveland ironstones; and these effects would naturally vary with the chemical nature of the agent held in solution by the water.

5. By gasolytic action. The action of vapors and gases, at times strongly acid, as seen in solfataras and fumeroles, has also frequently played an important part in affecting metamorphic changes, both by the decomposition and reconstruction of rocks; by such means we often find limestone converted into gypsum, deposits of kaolin and clays formed from the decomposition of feldspathic rocks, etc.; and many of the compounds of boracic acid appear also to have been derived from such sources.

6. By a combination of two or more of the above agencies. In the study of the physical and chemical geological of the older and more characteristic metamorphic deposits, all the above agencies appear to have combined (if not at once, at least at different times,) to produce the extraordinary and varied appearances which are now visible in these rock formations.

Many of the mica schists appear to have been originally mere micaceous sandstones, such as are now found in the later formations, subsequently recrystallized, probably by the long-continued action of a gentle heat, causing the particles to expand, and permitting a molecular movement, whilst the combined effect of pressure gave the direction to them, and caused the lines of foliation and rearrangement of the particles to take place. The quartzites in part appear to have been mere sandstones, recrystallized and indurated by similar causes, whilst others appear to be sandstones or grits, the particles of which have been cemented together by a minute quantity of gelatinous silica, produced from the decomposition of feldspars originally associated with them, and this mass consolidated by pressure, assisted or not by heat—a result very analogous to the formation of Ransome's patent stone.

Much of the gneiss appears to be the result of a stratified reconsolidation of the matter derived from sub-aqueous or sub-aerial granite outbursts, such as I have previously alluded to, whilst another species of gneiss, granite gneiss, or gneiss granite, appears (as I in 1854 described in the case of many Norwegian rocks) to have resulted from true granite eruptions, in which the foliated or parallel structure has been subsequently induced by a re-arrangement of the mineral molecules in the solid mass, very possibly effected by the long-continued action of moderate heat and pressure, as in the case of the artificial specimens on the table before us.

Although I admit that what has been termed hydrothermal action has taken part in these metamorphic changes, and that this action may have been much assisted by the alkaline or other matter in the water, I am not inclined to consider either hydrothermal action, or the view that the methamorphic rocks have been formed from ordinary strata, softened and brought into a pasty state by the combined effects of enormous pressure, heat, and water (a sort of *Papin's digester* process), as the grand cause of the metamorphism of rocks.

The results of experimental research, on the contrary, show that in order to imitate such effects, the heat must be so low as to prevent any softening or fusion; that the pressure need be but very moderate, but must be constant; that oxidation must be guarded against;* and that time is a most important element in all these changes.

The examination of natural metamorphic rocks by the microscope further leads to the deduction that the water present in these rocks has in all probability been derived from the water originally present in the unaltered stratum; and we know that all beds of aqueous deposition invariably contain more or less water; further, that the arrangement of the particles and crystallization of the rock is compatible only with the view that the metamorphism had been effected whilst the rock itself was in a solid condition.

I have therefore come to the conclusion that the great metamorphic changes seen in the older strata have, in the main, been effected whilst these rocks were in a perfectly solid condition, by what may be termed molecular-chemical action, *i. e.*, a combination of chemical force and molecular movement, which may have been brought into activity by any one or more of the previously described agencies.

In concluding this necessarily very incomplete sketch, in which I have endeavored to touch upon the most prominent points of chemical geology, I would add that I believe that many, if not all, of the views which I have adopted, so far from being new, have long ago been enunciated by other observers. My labors have consisted in examining into their soundness, and attempting to build up a whole by the agglomeration of what might be termed "disassociated" data; and throughout this lecture I have attempted, as far as possible, to support my views by reference to facts and experiments in preference to the opinions of authorities.

Although, from its very nature, some parts of such a sketch must be necessarily extremely theoretical, yet I believe the Society will support me in considering that the interests of science may be benefited by occasionally attempting to bring an accumulation of facts under some theoretical, but systematic, arrangement, even if this be but regarded as temporary, and found subsequently to require much modification by the advance of our knowledge of the subject; and in now bringing forward this summary of my investigations on the subject, I may state that I am fully prepared to reject such points as may be proved to be unsound, my object being the elimination of truth, and not the defence of any opinions which notwithstanding that I now hold to be correct, may possibly be hereafter shown to be untenable.

* In nature the supposition that the rocks when metamorphosed were below the ocean, or under superincumbent strata, would account both for their protection from oxidation, and for the required pressure.

SEWERAGE CONCENTRATED AND UTILIZED. An English paper says that Messrs. Robert G. Sillar and George W. Wigner, have recently patented a new compound, consisting of animal charcoal, blood, clay, alum, and certain other materials, which is stated to possess the power of precipitating nearly all the manurial matter of the sewer water, "the precipitate settling in a flocculent mass, and the residuum requiring only to be dried and treated with a simple acid to render soluble certain of the constituents for the use of plants."

Five hundred horses have been brought to California this season, from Oregon, and sold at a great profit.

Prevention of Boiler Explosions.

A paper was read by L. E. Fletcher, C. E., before the British Association at Norwich, suggesting that Coroners' inquests properly conducted would be more effective toward the prevention of boiler explosions than Government Inspection. We condense as follows:

At the inquiries conducted by coroners as to the cause of explosions, the public naturally look for all the facts of the case to be brought out, so that they may not only be informed that so many poor fellows have been blown to death, and so much property damaged, but also instructed as to the true cause of the catastrophe. These hopes are, however, as a rule, disappointed. The public are misguided rather than instructed, and instead of any practical suggestions being given for the prevention of similar disasters, they are generally stated to be perfectly unaccountable and accidental, that no one is to blame, and that nothing could have prevented the catastrophe. The evidence admitted is of the most absurd and frivolous character. In many cases, witnesses are adduced to prove that the exploded boiler was a thoroughly sound one and perfectly safe at the pressure at which it was worked. On one occasion, a witness attributed the explosion to wind in the pipes, produced by lifting the safety-valves; on another, to the formation of an explosive gas within the boiler, which had become ignited through a crack in the plates. Many other cases show the character of evidence too frequently given.

There are, however, a few exceptions. An explosion occurred in this city about two years since, killing seven persons and laying the premises in ruins. The cause was simply that the boiler was a bad one, though new and made under special contract. This the jury plainly stated in their verdict; and the maker of the boiler had to pay damages to the amount of £2,000. A few such verdicts would shortly rid the country of boiler explosions.

Let every coroner be empowered to call in two competent engineers to investigate the cause of the explosion, and report to the jury thereon; these engineers to visit the scene of the explosion, examine the fragments of the boiler, attend the inquest, hear the evidence, aid the coroner in conducting the inquiry, report to him, and accompany their report with suitable scaled drawings of the exploded boiler, showing its original construction, and the lines of fracture, as well as the flight of the parts as far as they can be ascertained. The inquest to be open to the public and to the press. A full account of the inquiry, including the reports, accompanied with the drawings, to be printed and deposited at the "patent office," and to be accessible both to the purchase and inspection of the public, as is the case with the specifications of patents. Also a report of each inquiry to be sent to the members of both Houses of Parliament, as issued.

The frequency of boiler explosions has been used as a plea for a Government system of compulsory inspection. There are, however, objections to this course. Such a system must be carried on by rule, and, however wisely such rules might be framed, and however liberally carried out, it would be impossible to prevent its proving a harass to the steam-user, and an impediment to progress. But by confining Government action to investigations by coroners' juries, the steam-user would be left perfectly free as regards the management of his boilers, but would be held responsible for results.

SUBSIDING.—The evidences that Southern New Jersey is sinking into the sea, are that the tide mills lose an inch of head every ten years, in consequence of the rising of low water mark, and that the sea is perceptibly advancing towards houses and other fixed objects. The grandfather of Aaron Leamiug was buried in 1694, at Townbank, in a graveyard a short distance inside of the town. In 1734 the graves were about fifty rods from the shore, and ruins from the houses were apparent. Now the graveyard has been all washed away, and at dead low water mark, the marks of three walls, remnants of the town built between the shore and the graveyard, can be seen. Mr. Price, a surveyor in the vicinity, says his lines are shorter by forty or fifty rods than they were in 1776.

AN Ohioan has invented a car brake which acts directly on the axle, instead of the wheel. It is asserted that it will, by a quarter turn of the brakeman's wheel, bring a car to dead lock.

Mechanical.

Uniform Standard for Bolts and Nuts.—In May last we announced the appointment of a board of naval officers by the Secretary of the Navy, to examine and report upon the different kinds and sizes of screw-threads in use,—with a view to the adoption of some uniform plan. This board duly reported, after having visited the principal machinery establishments in the United States; their report has been adopted, and the plan recommended by them made the standard of the U. S. naval service. It is that of Sellers, of Philadelphia.

The form of thread is a V, with an inclination of 60°; the top and bottom flattened equal to one-eighth of the pitch. The following table of the number of threads and the diameter of bolts, is from the *Scientific American:*

Diam. of bolt.	No. of threads.	Diam. of bolt.	No. of threads.
¼	20	2	4½
5-16	18	2¼	4½
⅜	16	2½	4
7-16	14	2¾	4
½	13	3	3½
9-16	12	3¼	3½
⅝	11	3½	3½
¾	10	3¾	3
⅞	9	4	3
1	8	4¼	2⅞
1⅛	7	4½	2¾
1¼	7	4¾	2⅝
1⅜	6	5	2⅝
1½	6	5¼	2⅝
1⅝	5½	5½	2½
1¾	5	5¾	2⅜
1⅞	5	6	2¼

The board, in concluding their report, say: "So far as we have been able to confer with engineers and manufacturers, we have heard but one opinion expressed in regard to the importance of uniformity of practice. Many have already adopted the the Sellers pitch; others are gradually adopting it, while others still express their willingness to adopt it. A majority, we confidently believe, are now willing to adopt the Sellers *form* of thread also, provided it be made the standard.

"As a proper auxiliary we suggest the importance of having all necessary gauges manufactured by a single establishment, as by that means only can entire uniformity be secured."

Platinum Coating on Brass.—Böttger makes a nearly neutral solution of chloride of platinum by carefully adding carbonate of soda to the acid solution as long as there is effervescence. To this solution he adds a little glucose and some chloride of sodium, without which latter the platinum would be deposited black. The articles to be coated have only to be immersed in this mixture; but when it is wished to coat a number of small objects,—pins, for example,—it is recommended to place them in a sort of zinc sieve, and immerse the whole in the solution, heated to about one hundred and sixty degrees Fahrenheit. The coating of platinum is deposited almost instantaneously, and the articles have then only to be well washed and dried in warm sawdust.

Electric Clock.—A new electric clock is now on exhibition in New York. The *Artisan* says of it: This clock, like most if not all of the electric clocks heretofore constructed, is set in motion through the pendulum; but, instead of the pendulum being alternately attracted in opposite directions by means of two electro-magnets acting on armatures in connection with it, is alternately *repelled* in opposite directions by the action of two stationary galvanometer coils upon polarized steel bars firmly inserted through the pendulum-bob; the current from a galvanic battery being charged from one coil to the other alternately, by means of a circuit-changer attached to the pendulum.

Bronzing Copper-coated Iron.—Weiskopf also gives a process for communicating to objects of art coppered by his plan the appearance of antique bronzes. For this purpose he brushes the articles over with a solution composed of four parts of sal-ammoniac, one part of oxalic acid, one part of acetic acid, and thirty parts of water. The application is to be repeated until the article assume the desired color.

Cutting and Planing Stone.—S. W. Robinson, C. E., contributes a paper upon this subject to the *Journal of the Franklin Institute*, for September. After alluding to the difficulty of dressing stone by machinery, owing to the destruction of tools by the "grit," he thus speaks of two machines which have been tried:

Near the eastern portal of the Hoosac Tunnel, in Massachusetts, may be seen a hole about 16 feet deep, horizontally, and 24 feet in diameter, which was bored into the solid talcose slate of the Hoosac Mountain by an immense tunneling machine in the earlier days of the present Hoosac Tunnel enterprise. The surface of the rock, as left by this remarkable machine, is as smooth as though dressed to an even cylindrical surface by masons' chisels. The machine which did this work was provided with revolving cutters, the axes of which were set diagonally to the path of their motion, so that the cutting was due partly to the rolling contact, and partly to slip. This machine was unsuccessful, as is shown by the fact that it was intended to bore through the mountain, but only made about 16 feet advance before being abandoned on account of the expenditure of one set of the circular cutters, which were very costly. A tunneling machine was tried in England which cut its way 80 feet into rock, but was not regarded as successful.

At Lemont, Ill., may be seen a massive planer, constructed of iron, on which immense flagging and facing stone are planed to a remarkable degree of smoothness, presenting, in fact, almost a polished surface. The stone thus treated is limestone. It is planed in a manner similar to that of planing iron. A series of cutting tools is fixed, under which the stone moves to and fro with a great degree of power and steadiness, the cutters taking off shaving after shaving until the desired surface is obtained. A very slow speed is required in order to preserve the cutting edges of the tools for any considerable length of time, but this stone having less grit than many kinds, it is susceptible of being reduced by skillful management."

Coppering Iron.—We gave last week a method of coating iron with copper without a battery. We here give another plan, devised by Weiskopf. The article to be coated is first brushed over with a solution made by dissolving one part of nitrate of copper in fifty parts of hydro-chloric acid; and afterwards with a second solution made of ten parts of nitrate of copper, ten parts of chloride of copper, and eighty parts of hydro-chloric acid. This latter solution is applied very quickly with a soft brush. The copper is deposited in a few seconds, and the object must be rinsed immediately in cold water and wiped with a soft cloth. By repeating the application of this second solution the copper coating may be obtained of any desired thickness. The coating is said to be very durable.

Mica Powder for Lining Safes.—Mica is one of the worst conductors of heat we are acquainted with. For this reason mica powder is recommended for filling in the walls of fire-proof safes. Any one,—says a writer in *Dingler's Journal*,—wishing to assure himself of its value for this purpose, can do so by taking a cast-iron tube 2 or 3 inches in diameter, placing a roll of paper in the center, filling up the space between the paper and the walls of the tube with the mica powder, and, after well closing the ends, throwing it into a furnace and keeping it red-hot for some time. When the tube is reopened after this, the paper will be found quite uninjured by the heat.

Large Steel Boilers.—Mr. Daniel Adamson, of the Newton Moor Iron-works, Hyde, England, is making some very large Bessemer steel boilers for a sugar bakery in London. They are intended to work at 100 lbs. steam pressure, and are eight feet in diameter and formed of 7-16-inch plates. Each ring is formed of a single plate, 26 feet 6 inches long and 3 feet 6 inches wide, giving but a single longitudinal seam. The rivet-holes are drilled.

Large Belt.—A leather belt 163 foot long, 30 inches wide, and weighing 800 pounds, has just been made for a new elevator in Buffalo. Its cost was $1,630.

Scientific Miscellany.

The Calaveras Skull, etc.

During the last two days of the session of the American Association for the Advancement of Science at Chicago, the question of the genuine character, as a fossil, of the skull found in Calaveras County, Cal., was discussed at some length. Prof. Silliman said that he had spent considerable time in the examination of the region about Jamestown, in Tuolumne County, and that so far as had come to his knowledge, there was no fossil evidence of the existence of man either in the form of bones or of handiwork. He exhibited the molar tooth of a mastodon, found in February last under Table Mountain, 4¼ feet above the bed-rock, in non-auriferous gravel, and said that if that formation was Miocene Tertiary, it puts the mastodon in America back to the date at which it has been found in India; but that whatever its age, there was no evidence of the contemporaneous existence of man. He thought the evidence in favor of the authenticity of the skull presented by Prof. Whitney, perhaps favorable to the opinion that it is a true find, and that it should have the benefit of the doubt; but that possibly Dr. Jones, who had a hand in the transmission of the bones, was somewhat credulous.

Prof. Blake withdrew the evidence which he had presented of the human relics found under Table Mountain, and which was discredited until he had an opportunity for further investigation; saying, however, that Dr. Snell, from whom his information was derived, was a man of good reputation, and one who could have no object in misrepresenting facts. He dissented from the opinion that the Table Mountain deposits were as old as the miocene division of the Tertiary, and considered the occurrence of the mastodon as evidence to the contrary.

During the closing day of the session, Prof. Blake referred to the skull shown by Prof. Whitney. His remarks are thus reported in the *American Journal of Mining:*

"In speaking of this relic, he wished that his motives would not be misunderstood. Until after the close of his remarks on the the preceding day, he had never had an opportunity of examining that skull. In a case of this kind, the public was entitled to have all the evidence of fact that was attainable. This fragment of a skull from the shaft in Calaveras County, was not water-worn or rubbed by attrition in the bed of the stream or elsewhere; the edges were sharp and angular, and the presence of other bones and of a fragment of shell evidently used as an ornament, crowded into the base of the skull, also indicated that the skull had not been rolled in the drift, but the appearances rather indicate it to be the remains of an Indian grave. He had heard the statement made in California, that the bone of a bird was found cemented to the skull; and he had only just heard that in cleaning the piece of the skull from earth and gravel, the shell of a snail was found, identical with the species now existing in that county. Such shells were very light and fragile, and it was difficult to conceive how it could have been rolled and tumbled, and forced into the position in which it was sound, without having been entirely destroyed; indeed, its presence was good evidence that the skull had not been drifted or washed into the gravel bed."

Prof. Andrews followed, expressing great doubt about the authenticity of the skull; believing that it had been placed in the shaft where it was found.

Mr. Grimes thought there might be some mistake about that skull. Naturalists who had discussed the antiquity of man had made an argument from the shape of the skull,—as indicating inferiority of character. But one thing was certain; the skull exhibited by Prof. Whitney, in its formation, indicated rather a superior character. According to its position it ought to be one of the first created, but if that was the form of the first created man on this earth, then, instead of mankind progressing, he has degenerated considerably, for, if there was anything in craniological science, that individual was superior to the majority of those present. [Laughter.]

Ants.—We condense the following notice of one of the most remarkable genera of the *Formicaria*, from Dr. Packard's new work on entomology, elsewhere noticed in this issue of the Press. The intelligence of the *Œcodoma* is wonderful. They understand the law of the division of labor. They are seen in immense numbers transporting leaves, from the foot of the tree to the nest, while other troops, which have climbed the tree, occupy themselves solely in cutting off the said leaves and dropping them. The leaves most relished by them are precisely those of the most useful trees; they are consequently a veritable scourge to agriculture. Everywhere, in desert places as well as in the neighborhood of habitations, columns of these insects are met, busily occupied in the transportation of leaves. "The *Œcodoma cephalotes*",—says H. W. Bates,—"from its immense numbers, eternal industry, and plundering propensities, becomes one of the most important animals of Brazil." Rev. Hamlet Clark says of another species of this genus, the *Œ. sexdentata*, that the proprietor of a plantation used every means to exterminate these pests, but failed. In a single night they would strip orange and lemon trees of their leaves. A ditch of water around the garden, which effectually excludes all other ants, was of no use. They would run a tunnel directly under its bed. It is said, indeed, that a column has been known, in its progress through the country, to undermine the great river Paraiba. The *Œcodoma Texana* has been known to dig wells for water twelve inches in diameter, and thirty feet deep.

Australian Fossils.—A quantity of fossil bones recently discovered at Wallaroo, have been pronounced by Mr. Waterhouse, curator of the South Australian Museum, to be those of the *Diprotodon Australis*. This is a kangaroo-like quadruped which Prof. Owen describes as having had a head some three feet in length; and as exhibiting remarkable modifications of its limbs. "The hind pair were much shortened and strengthened compared with those of the kangaroo; the fore pair were lengthened as well as strengthened; yet, as in the case of the megatherium, the ulna and radius were maintained free, and so articulated as to give the fore paw the rotary actions. These in Diprodoton would be needed, as in the herbivorous kangaroo, by the economy of the marsupial pouch." At present only one species of this genus is known; and it is conjectured that the animal lived in the pleistocene period. Numerous remains of this animal have been found in the most recent geological formations in Queensland, New South Wales, and South Australia.—*Dicker's Mining Record.*

Electricity and Photographic Plates. M. Becquerel finds that chloride and bromide of silver deposited on plates of platinum, when acted upon by light, give rise to a strong current of positive electricity, which is just the reverse of the current afforded by the platinum plate alone. Now the chloride and bromide of silver are actually decomposed by light—yet the bromide indicates a current of higher intensity than the former. The conclusion is, that a similar action takes place when the light acts on the chloride and on the bromide of silver, viz., reduction to a subchloride and subbromide respectively. On applying this test to the iodide of silver, it was found that it likewise gave rise to a current of positive electricity under the influence of light. The inference is that iodide of silver is reduced to a subiodide, just as the chloride is to a subchloride, and the bromide to its lower state of combination.—*British Jour. of Photography.*

Motion of the Stars Measured by the Spectroscope.—Mr. Huggins has thus measured the approach or recession of a star towards or from an observer. A ray of light undergoes refraction in proportion to its wave length. The short violet waves are more refracted than the longer red ones. Now if the observer is carried towards a star by its motion, or by that of the earth, the apparent length of the waves will be diminished, and they will be more refracted; but the reverse if the motion is in the opposite direction. The lines of the spectrum are displaced by these changes; and by calculations made accordingly, Mr. H. finds that the nebulæ are not appreciably changing their distance from the earth, and also that Sirus is approaching us at the rate of 29¼ miles per second.

[Written for the Mining and Scientific Press.]

Action of Sulphuric Acid on Sugar and other Organic Bodies.

BY EDWARD PIQUE.

EDITORS PRESS:—It is known that there are two different kinds of sugar. One kind, obtained from sugar cane, beets, maple trees, etc., appears in beautiful crystals and polarizes, the light to the right; while the other kind, which is contained in the juice of grapes, apples, pears, plums, in honey, etc., and may also be prepared by boiling starch or vegetable fiber with diluted sulphuric acid, hardly ever appears in clearly defined crystals; they have a different form from the others, and polarize the light to the left. The latter is greatly inferior to the first in regard to its appearance, and likewise the sweetening power, requiring at least double the quantity of starch sugar to produce the same effect as cane sugar. It would certainly be a great desideratum if starch sugar, which is so much cheaper, could be changed into cane sugar. This has never yet been accomplished.

If we boil cane sugar with dilute sulphuric acid, it is converted into fruit sugar; but after this change has taken place we are not able to change it back into cane sugar.

The sulphuric acid exerts a similar power on some other organic bodies. For instance, *indigo*, by proper treatment, will dye different fabrics a durable blue, so that neither the light of the sun nor washing with soap will have any effect on the color; but after dissolving the indigo in concentrated sulphuric acid, we obtain a blue pigment, called *coerulin*, which will stand neither the sunlight nor the action of alkaline solutions, and we are not able to change the coerulin back into indigo blue.

With the view of ascertaining whether fruit sugar could be converted into cane sugar, I examined the change produced by the sulphuric acid. Now, it is well known that the sulphuric acid has a great affinity for water, and in consequence of this property not only deprives other bodies of the water that forms a part of their chemical constitution, but even causes the hydrogen and oxygen contained in those bodies to unite, in order to connect itself with the water so formed. We would naturally come to the conclusion that these bodies, after having been treated with sulphuric acid, should contain less water, or less hydrogen and oxygen, in the proportion of water, than they originally contained; but we are astonished to find just the contrary result.

Cane sugar consists of 12 equivalents carbon+20 hydrogen+10 oxygen+1 water.

Fruit sugar consists of 12 equivalents carbon+24 hydrogen+12 oxygen+2 water.

Indigo blue consists of 16 equivalents carbon+2 nitrogen+10 hydrogen+2 oxygen.

Coerulin consists of 16 equivalents carbon+2 nitrogen+18 hydrogen+6 oxygen.

This calculation shows that fruit sugar contains 3 equivalents of water more than the cane sugar, and coerulin 4 equivalents of water more than the indigo blue.

How can we explain this contradiction? My opinion is that sulphuric acid certainly does not possess the power to impart to other bodies a larger amount of water in their constitution, but rather deprives them of a certain quantity of water, changing their original composition, and that these bodies, after that change has taken place, possess a greater affinity for water, which they consequently appropriate to themselves, as soon as it is offered. As a proof of the correctness of my opinion, I wish to mention that *heat* by itself produces nearly the same effect as sulphuric acid. A certain degree of heat changes cane sugar likewise into fruit sugar, and a great many organic substances, after being exposed to a certain degree of heat, will lose some of the water belonging to their constitution; and if the heat be raised to a somewhat higher degree, they will part with some of their hydrogen and oxygen in the proportion of—and combine to form—water. After this change has taken place, those substances will always show a greater affinity toward water than they possessed before, and will appropriate the same if offered; forming a compound in which we shall find a larger number of equivalents of water, or hydrogen and oxygen in the same proportion.

Would it not be possible to find some other chemical agent, that would convert starch into sugar, without possessing the deteriorating influence of the sulphuric acid?

The chemical composition of starch being 12 equivalents of carbon+20 of hydrogen+10 of oxygen, starch and crystallized sugar are seen to have the same composition; but the crystallized sugar contains one more atom of water. If this one atom by some means could be added, we might arrive at the desired result.

Another point worth considering is the following: It is quite natural for concentrated sulphuric acid to deprive other bodies of a certain quantity of water, since having a great affinity for water it endeavors to appropriate the same, to form a hydrate; but why sulphuric acid, after having been diluted with from forty to sixty times its weight of water, as is done in the starch sugar manufactories, should still possess the same water-depriving influence, is more than I can account for.

Nevada Minerals.

The following list of minerals occurring in the mines of the Reese River District, Nevada, was arranged according to Dana's classification (chemical), by Eugene N. Riotte, M.E., of Austin, and published in Ross Browne's report. It is valuable because the Reese River minerals, so far as brought to light, may be taken as representative of the silver mineralogy of the interior regions in general:

I. NATIVE ELEMENTS: Native gold, native silver, native copper.

II. SULPHURETS, ARSENIURETS, ETC.: I. *Binary compounds.* 1. Stibnite, antimonglance. 2. Silverglanze; erubescite, variegated copper ore; galena, blende, copper glance, stromeierite, pyrites, lucopyrites, molybdenite. II. *Double binary compounds.* Chalcopyrite, pyrargyrite, proustite, tetrahedrite, polybasite, stephanite, fireblende.

III. FLOURIDS, CHLORIDS, BROMIDS, IODIDS. I. *Binary compounds.* Common salt, kerargyrite, bromyrite, jodyrite. (?)

IV. OXYGEN COMPOUNDS. I. *Oxide binary compounds.* I. Red copper, magnetic iron ore, hematite, housmanite, pyrolusite, psilomelan, wad, quartz, opal. II. *Salts double binary compounds*: Pyroxene, rhodonite, silicate of manganese; hornblende, muscovite, feldspar, oligoclas and orthoclas, tourmaline, chrysocolla; hubnerite, tungstate of manganese; barytes, gypsum, cyanosite, copperas, glauber salts, apatite, nitre, calcite, carbonate of manganese, chalybite, spathic iron ore, cerusite, trona, malachite, asnrite, titanite, tungstate of lead.

THE WORLD'S HIGHWAY.—At first glance it would seem a nice question whether San Francisco and the Pacific Railroad can put in the best bid for the Australian-European travel and light freighting, and take the prize from the Panama, Suez, and Cape of Good Hope steamer routes. San Francisco lies 900 miles nearer to Melbourne than Panama does, making a difference in our favor of four days, at least. But there are other additional reasons that will induce all Australians to travel this route who can afford to pay a little more. From Shanghai the distance to London, via Suez, is 2,100 miles greater, and from Yokohama it is 4,000 miles greater than via San Francisco.

In 1869 we shall have an Australian steamship line—and a great deal more that we do not dream of. The celebration of the opening of these "great circle" communications, will be the grandest triumph of this age in its own specialty of locomotion and transportation. Though capitalists and monopolists do great things, they will not control everything. It is a world triumph, in which we are all concerned, and of which our entire population of brave adventurers and explorers must share the benefits.

REFRESHING.—The late showers have laid the dust of our streets and purified the atmosphere. At Woodward's, the grass plats appear as gay, as fresh and green as they are in April or May. *

New Patents Issued to Pacific Coast Inventors.

Especially reported by the U. S. Patent Office, Washington, D. C., to DEWEY & CO., American and Foreign Patent Solicitors, and Publishers of the MINING AND SCIENTIFIC PRESS.

ISSUED FOR THE WEEK ENDING OCTOBER 20TH, 1868.

83,153.—IMPROVEMENT IN BILLIARD TABLES. Karl Gudenoge, San Francisco, Cal.:

I claim the construction of a billiard table by the arrangement of the longitudinal slats a, a, transverse slats b, b, longitudinal rails c, c, c, and alternate wide boards or pieces d, d, d, placed edgewise and held by the transverse bars e, e, e, or equivalents, substantially as and for the purpose described, in combination with the papier maché or pasteboard bed A, applied and prepared as specified.

This invention is designed to reduce the cost of billiard tables, so that this fascinating game can be more generally introduced. The necessity of an absolute plane which must also be perfectly horizontal, has led to the employment of marble and slate heretofore for beds, and their first cost is great, while they are heavy and unwieldy. In this device a series of longitudinal slats of wood are first placed, and these are crossed by another series transversely. Two other series of slats are placed on these first, and the whole firmly united, forming a solid frame which will not warp. A bed of pasteboard in layers, or of papier maché is then glued or otherwise united to this frame, and its surface polished, after which it may be covered as usual, forming a very permanent table.

83,158.—IMPROVEMENT IN SEWING MACHINE. Frank A. Hill, Marysville, Cal.:

I claim the frame A, provided with the shares or teeth H, in combination with seed box D, provided with the toothed shafts E, E, rotated in opposite directions from the wheels B, B, and also provided with the fixed and adjustable perforated plates *e*, *e*, all arranged to operate in the manner substantially as and for the purpose set forth.

83,221.—IMPROVED ORE SEPARATOR AND CONCENTRATOR.—Richard D. Symons, John T. Harry and Samuel Stephens, Grass Valley, Cal.:

1. We claim in combination with the pan or tub A, and chamber H, the yoke B, provided with stirrers or agitators D, D, D′, and annular ring D, or their equivalents, substantially as and for the purpose described.

2. The hollow vertical shaft F′, and driving shaft F, with a half round opening in which the half-round depending spindle E, of the yoke sets, substantially as described for the purposes set forth.

3. The pins L, L, on the gear I, I′, which operate the hammer, the weighted arm M, M, and the hammers N, N, the whole constructed and arranged to operate substantially as and for the purpose described.

The present invention is one of the many which the necessities and peculiarities of California mining have brought forth. The large proportion of sulphurets, fine gold, amalgam, etc., which would be carried off and lost after the mill or pan processes, make it necessary to concentrate and settle them from the less valuable portions of the pulp. This arrangement consists of a pan having a central hub through which an upright shaft passes, and is turned by gearing beneath. A sort of yoke is fastened to the top of this shaft, and extends to near the bottom of the pan, carrying a series of arms or stirrers which separate and agitate the pulp. The process of settling is facilitated by hammers which are operated by levers, and pins on the back of the gears, so as to strike the sides of the pan, and by the percussion cause the heavy and valuable portions to settle rapidly. This device is already in successful operation.

83,260.—IMPROVED WASHING MACHINE.—G. A. Dabney, San José, Cal.:

I claim the reversible rubber G, constructed as described in combination with the side bars F, swinging bars D, and removable rubbing platform K, L, substantially as herein shown and described, and for the purpose set forth.

83,275.—IMPROVEMENT IN LUBRICATORS FOR STEAM ENGINES.—George Girty, Rainier, Oregon:

I claim the two valves L, I, pipes B, E, oil chamber D, and lever F, all constructed and arranged to operate in the manner substantially as and for the purpose set forth.

83,283.—IMPROVEMENT IN GANG PLOWS.—H. R. Huie, Haywards, Cal.:

1. I claim securing the arm *e*, of the axle *f*, to the axle-tree *a*, by means of the eye-bolt *i*, as shown in and described.

2. The crank bolt q, in combination with the eye-holt *r*, for adjusting the tongue as herein set forth.

3. The arrangement and construction of the plate *l*, ears m, and boxes *n*, which allow of their being cast as one piece as herein described.

83,306.—IMPROVEMENT IN MORTISING MACHINES.—Francis Parker, Petaluma, Cal., assignor to self and C. W. Ormsby, of same place:

I claim the gauge-rod B, with the slides D, E, F, G, or their equivalents, together with the stops R, S, T, U, V, W, when constructed substantially in the manner and used for the purpose above described.

The "Dead Rivers of California," is the title of an article in the November *Overland Monthly*, written by a person who has undoubtedly had something to do with gravel mining, as his facts are original, interesting and pertinent. He is much more positive, however, that the "Big Blue,"—the supposed Mississippi of the Sierra Nevada,—is not a myth, than we are. This is the ancient channel which some will have was the ancient Colorado. The present writer gives his weight cautiously in favor of the hypothesis that it must have been the ancient Columbia. The slight difficulty of granite mountains being in the way which are certainly older than the tertiary river channels, has not suggested itself, no more than the fact of unaltered sandstones of older Tertiary and Cretaceous age lying all along foot-hills of the Sierra Nevada, and testifying as plainly as need be that the mountains could not have been raised any since these were deposited;—taking Prof. Whitney as authority, that they are still lying as originally deposited.

CLIMATIC CAUSES.—We are told that the climate of Japan has been cool like our own. As it is known that the earthquakes of last year in the West India seas were followed by a change in the Gulf Streams of the Atlantic, which regulate the distribution of heat. We cannot be sure but that even temperature and the earthquakes may have had something to do with each other on our coast; though theorics come with the best grace always when accompanied by the directly governing facts. Seamen found the warm current from the Gulf of Mexico 100 miles farther east than formerly, and a corresponding change must have occurred in the course of the cold streams returning from the Polar Seas.

The currents of the air and of the ocean, when once sufficiently observed and mapped on our shores, will doubtless furnish us with amply satisfactory data concerning the peculiarities of our climate, and the modifications of the same.

The article in the second number of the *Overland Monthly*, entitled "Meteorology from Tamelpais" was an able and valuable contribution to local meteorology, which will be worth specially sending for by those who love to study the *rationale* of the weather. It was written by Dr. Stillman.

THERE is no mistake about it, Plantation Bitters will ward off Fever and Ague and all kindred diseases, if used in time. No family need suffer from this distressing complaint if they will keep Plantation Bitters in the house, and use it according to directions. The most important ingredient of this medicine is Calisaya Bark, which is known to be the finest and purest tonic in the vegetable kingdom. The extract of this bark is the active principle of all the good fever and ague medicines prescribed by intelligent doctors. Calisaya Bark is used extensively in the manufacture of Plantation Bitters, and we dare say, owe their popularity mostly to that fact. We can recommend them. *

HYDRAULIC ENGINE.—H. B. Martin & Co. are constructing a little hydraulic engine to be run by a stream of water from the street main, for the purpose of blowing the organ of the new Calvary church. By turning a stop-cock the organist perfectly controls the machine.

CONTINENTAL Life Insurance Company, 302 Montgomery street, corner of Pine.

Weekly Stock Circular.

By Associated Srokers of the S. F. Stock and Exchange Board.

San Francisco, November 7, 1868.

Financial.

We are are indebted to the *Commercial Herald* for the following:

Although deposits in our Savings and Loan institutions have been quite heavy during the past week, there is so active a demand for money that a slight stringency is observable in the market. This does not, however, affect rates of interest in bank, which have undergona no change, being 1@1¼ per cent. per month on call loans, and twelve per cent. per annum for long periods. In this respect our market evinces a material difference from that of the Eastern cities, especially New York, where rates vibrale with remarkable sensitiveness, rising with the slightest stringency and falling as rapidly with an easy market. Not being of the "greenback" persuasion, our financial operations are altogether more substantial and satisfactory. Gold bars are not in great demand for shipment, the greater number going to tha Mint for coinaga. We quote them at 840.

Our City Treasury contained $1,411,650 on the 31st of October, all of which was gold coin, with the exception of $61,650. It would be a most desirable piece of financiering if this money, and that locked up in tha State Treasury, could be utilized without bringing it into competition with private funds.

Mint statistics demonstrate tho following facts: Gold deposits for October amounted to 127,716 ounces; silver deposits for the sama month, 37,358 ounces. Tha gold coinage was $2,390,000, and tha silver coinage, $25,000. The gold deposits since January have amounted to 660,657 ounces, and the gold coinage, for the sama period, was $11,870,000; the silver coinaga being $478,000. Tha total coinage at tha Parent Mint, Philadelphia, from January to October, inclusive—ten months—will not exceed $1,700,000, or $715,000 less than was coined in tha San Francisco Branch in the single month of October. In tha "Parent" coucern every aid that ingenuity and skill have inveuted ara brought into use. Tha building is large, roomy, well ventilated, and constructed with a special view to tho melting, refining and coining processes. Hero thesa operations are carried on iu a wretched den—dark, without ventilation, cramped and altogether unfit for the purpose. Government has sbown a most niggardly spirit toward this coast, and treats it as Spain does tha "ever faithful isla" of Cuba.

Real estate transactions for October amounted to $2,511,702 on 616 sales, being 16 sales less in number and $293,693 less in amount than for tha month preceding. Since the memorable occurrence on tha 21st of October to tho 31st of tha samo month—ten days—213 deeds were recorded, showing an aggregate valus of $913,108, which is sufficiently conclusive that our peoplo bavs not lost tbeir confidence in tha valna of this kind of property. Tha number of mortgages effected in October was 263, with an aggregate value of $1,009,754; tho number of releases for the sams period was 123, representing $339,359.

City Stocks.

During the period under review transactions in miscellaueous secnrities were small. We note sales of North Beach and Mission Railroad stock at $70 per share. We nnderstand that books bave been opened for subscriptions to tbc new street railroad which is to have its starting point at the corner of Jackson and Montgomery streets. From there the track is to be laid along Jackson to Powell; along Powell to California; along California to Taylor; along Taylor to Pacific; along Pacific to Leavenworth; along Leavenworth to Vallejo; along Vallejo to Hyde; along Hyde to Union; along Union to Larkin, in the direction of the Pioneer Woolen Mills.

Tbe Spring Valley Water Co. will disburse its nsual monthly dividend on the 10th inst. San Francisco Gas Co. paid its nsnal dividend on the 2d. At tbe close a few shares of Spring Valley sold at $65 50.

Mining Share Market.

The markct for mining shares has been rather dull since our last similar reference, the sales, in the aggregate, amonnting to a great deal less than for some time past; and for the most part N. Mackay; President, J. D. Fry; Vice-President, Louis Gerstle; Secretary, H. C. Kibbe; Superintendent, P. N. Mackay; Treasurer, W. C. Ralston

The aggregate sales for the week amounted to $1,259,530.

Savage—declined from $72 to $66 50, and closed at $68 60. No dividend has yet been declared for the present month. If any will be paid it will not exceed $2 50 per share.

Imperial—sold within a range of $95@104, then at $92, closing yesterday at $97. The machinery bad been temporarily stopped, but is again in good working order, having commenced to hoist ore on the evening of the 4th inst. The Imperial-Empire shaft is going down at the rate of a foot and a half per day. No favorable developments as yet in the drifts on tbe 900 level. The October receipts of bullion foot np $58,229 17, against $64,532 in September.

Gold Hill Quartz—shows a bullion yield of $9,103 63 from 429 tons of ore, equal to $21 22 per ton, for the month of October. In September the receipts amonnted to $10,318..... Confidence turned out $22,831 63 in bullion from 1,046 tons of ore during the month of October. The September yield was $21,280.

Crown Point—receded from $43 to $41 50, and closed at $42 50. The stopes between the 700 and 800 levels are about exhausted. The sill floor of the 850 level is opened about 50 feet nortb of the sonth winze, and is said to show an improvement in the face of the drift, the pay body being about three feet wide—ore that will mill about $30 to the ton. On the 900 level the raise from north winze is np 46 feet, but does not show much improvement, the "pay" being a little more than three feet wide, and reported to be good ore. Tbe shaft is thirty-one feet in deptb below the 900 level.

Kentuck—dropped from $250@205, and closed at $218. Tbe receipts, as far as reported for October, foot np $69,145. A dividend of $20 per share is payable on and after the 10th. ....Alpha sold at $40 50@35, and closed at $36 50. The drift on the 940 level is in hard ground. The 840 level does not look as well as formerly.

Chollar-Potosi—advanced from $134 to $140, and closed at $139. During the week ending October 30th they extracted 1,746 tons of ore. It is reported that the ore obtained from each face in tbe Blue Wing stope will pay a profit over expenses, and from present appearances this portion of the mine can be depended on for a large amount of low grade ore. The receipts of bullion in October amounted to $112,898, against $78,013 in September.

Empire—sold duriug the week at $100, seller 3. During the month of Octobcr, $16,804 in bullion came to band, against $18,837 in Septembcr.... Sierra Nevada sold at $25@28. In October $5,191 in bullion was received, against $4,542 in the previous montb....Eureka (Cal.) shows a bullion yield of $33,826 from two shipments during the month of October.

Gould & Curry—sold at $81@85. The porphyry whicb made its appearance at tbe soutbwest corner of tbe shaft, mentioned in our last issue, did not last over two days, and since which time work has continued in "clay"..... Overman was quite active during the past week, selling at $60 50@70, and closing at $64. So far for October the bullion receipts foot up $35,000.

Amador—sold to a considerable extent within a rauge of $230@205. During the month of October, 2,633 tons of ore were sent to tbe mill, On the 4tb instant 700 tons were on haud at the Rose mill. Tbe receipts of bullion for October amounted to $46,600, against $42,300 in September. Tbe Superintendent reports that the Badger shaft is 72 feet in depth below the lowest level, and that tbe vein is improving on the south side of the shaft. The vein in the drift of the Sacramento level shows considerable improvement. They are preparing to sink the north shaft in order to connect with the Badger, which it is thought can be done in about three months. For the twelve months ending September 31st, 1868, the average yield of bullion to the ton has been $22 02.

Yellow Jacket—rose from $1380 to $1460, declined again to $1380, and closed at $1410. This company has declared a dividend of $300 per share for the past quarter, payable on the 10th instant.

Belcher—ruled at $110@140. This company is now incorporated under the laws of California, with a capital of $1,040,000, divided into 10,400 shares, giving ten shares for one of the old stock. The following are the officers just elected: Trustees, J. D. Fry, B. F. Sherwood, Louis Gerstle, E. B. Mott and Patrick

Ores.—Fine specimens of chloride and sulphide of silver from White Piue, Nevada, have been shown to us by Messrs. T. L. Burton and J. W. Kimball, who are just returned from Battle Mountain, at the mouth of Reese river. The sulphide of silver being pure, contains 87 per cent. of metallic silver, and the chloride or horn silver 75 per cent. Stacks and pillars of this ore bave been surrounded and are now being worked out.

At Battle Mountain ores of a similar character have been found, in a slate and limestone country, with intervening veins containing copper which assays $50 to $65 in silver, $5 in gold and 22 per cent. in copper. The veins are well defined, and very flat, cutting across a mountainous point between Humboldt and Reese rivers.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

Name, location, amount, and date of assessment.	Day delinquent.	Day of sale.
Alameda Coal, Sept. 17, 50c.	Oct. 27	Nov. 16
Amador Co., dividend, $5 per share	Payable Oct. 20, 1868	
Bullion, Aug. 19, $10	Payable immediately	
Bacon, Storey co., Nev., div.	Payable June 19, 1868	
Belcher, Storey co, Nev., Oct. 6, $25	Nov. 6	Dec. 8
Badger Hill & C. G. Co	Meeting, Nov. 7	
Chipionena, Mexico, Nov. 6, $2.50	Dec. 11	Dec. 28*
Cherokee Flat, Butte co., Oct. 20, $5	Nov. 23	Dec. 9
Confidence, Storey co., Nev.	Annual Meeting Nov. 13	
Cordillera, Mex., Oct. 16, $1	Nov. 18	Dec. 7*
Chollar Potosi, div., $25	Payable Oct. 15, 1867	
Crown Point, dividend, $7.50	Payable Sept. 12, 1868	
Diamond cop., Del Norte co., Oct. 28, $2	Nov. 10	Dec 28*
Fogus, Amador co., Oct. 23, $2.50	Nov. 24	Dec. 12*
Empire M. & M., Nev., dividend $6	Payable May 15, 1867	
Eureka, div. $5	Payable Oct. 22, 1868	
Gould & Curry, div., $7.50	Payable May 16, 1867	
Gold Hill Q M & M—dividend, $7 50	Payable July 13, 1868	
Golden Rule, Tuolumne co, div 50c ₱ sh	Payable Aug. 23*	
Great Central, Arizona, Oct. 9, $2.50	Nov. 11	Dec. 30*
Gold Hill Tun., Storey co., Nev. Oct. 9, $2	Nov. 18	Dec. 9*
Glenwood Mill, El Dorado co., Oct. 10, $50	Nov. 20	Dec. 9*
Hope Gravel, Nevada co., Oct. 6, $1	Nov 10	Nov. 30*
Hale & Norcross, div. $125	Sept. 16, 1867	
Hale & Norcross, Virginia, Oct. 12, $10	Nov. 14	Dec. 5
Imperial, Storey co, Nev., div.	Payable June 20, 1868	
Julia, Storey co., Nev., Oct. 22, $1.50	Nov. 25	Dec. 14
Kearsarge, Inyo co., Sept. 18, $1	Oct. 22	Nov. 10*
Kentuck, div., $20 per share	Payable Nov. 10, 1868	
Morning Star, Alpine co., Sept. 25, $2.50	Nov. 2	Nov. 23
North Star	Meeting Oct 31	
North Star, dividend, $5	Payable Aug. 15, 1868	
Nevada County M. Co., $1	Nov. 18	Dec. 19*
Pacific Unassessable, div	Payable June 18, 1868	
Pacific Coal, Sept. 19, $12.50	Oct. 29	Nov. 18
Rattlesnake, Yuba co., Oct. 13, $2	Nov. 18	Dec. 7*
Rising Star, Idaho, Sept. 11, $7.50	Oct. 24	Nov. 25
Rippon, Alpine co., Oct. 15, $1	Nov. 19	Dec. 3*
Sanator, Storey co., Nev., Nov. 2, 50c	Dec. 4	Dec. 24*
Savage, Virginia, Nev, dividend, $5	Payable Oct. 10, 1868	
Silver Nev., Storey co., Nev., Sept. 25, $10	Oct. 27	Nov. 14
Santiago, Silver City, dividend	Payable Sept. 10, 1868	
Sand Spring Salt, dividend $1	Payable June 5, 1868	
Tallulah, Humbolt co., Nev.	Annual Meeting, Nov. 25	
United States, $1	Sale Nov. 18	
Virginia & O. H. Water Co.	Dividend, payable May 16	
Yellow Jacket, div., $300	Payable Nov. 10, 1868	

Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. Stock and Exchange Board.

Friday Evening, Nov. 6, 1868.

Miscellaneous stocks.	Bid.	Asked.
United States Bonds, 5 20s	$ 80	81
Legal Tender Notes	74	74¼
California State Bonds, 7s, 1857	95	95
San Francisco Bonds, 10s, 1854	par & int.	
San Francisco City Bonds, 6s, 1855	—	—
San Francisco School Bonds, 10s, 1860	100	—
San Francisco School Bonds, 10s, 1861	par & int.	
San Francisco City and County Bonds, 6s, 1858	85	90
San Francisco City and Co. Sch'l B'ds, 7s, 1866	90	—
San Francisco City and Co. Bonds, 7s, 1863	90	91
San Francisco City and Co. Bonds, 7s, 1864	90	—
San Francisco City and Co. Bonds, 7s, 1865	90	—
San Francisco City and Co. Judg. Bds. 7s, 1863	90	—
San Francisco City and Co. Judg. Bds, 7s, 1864	90	—
Sacramento City Bonds	23	25
Sacramento County Bonds, 6s	70	73
Marysville Bonds, 10s	75	80
Stockton City Bonds	60	70
Yuba County Bonds, 8s	77	73
Santa Clara County Bonds, 7s	76	77
Butte County Bonds, 10s, 1860	70	75
San Mateo County Bonds, 7s	75	80
California Steam Navigation Co.	—	57½
Spring Valley Water Co	65	66
State Telegraph Co	25	29
Gas companies.		
San Francisco Gas Co	76	77½
Sacramento Gas Co	70	73
Railroads.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	70	—
Central Railroad	60	68
North Beach and Mission Railroad	—	70
Front Street, Mission and Ocean Railroad	11	12
Banking institutions.		
California, Loan and Savings Society	—	—
Pacific Bank	97½	100
The Bank of California	157	158
Insurance companies.		
Firemans' Fund Insurance Co	92½	94
Pacific Insurance Co	124	125
San Francisco Insurance Co	—	105
Merchants' Mutual Marine Insurance Co	500	525
California Insurance Co	1300	1400
Union Insurance Co	92	93
California Home Insurance Co.	19	—
Home Mutual Insurance Co.	19½	20
Occidental Insurance Co	72	—
National Insurance Co	72	—
Builders' Insurance Co	—	—
Mining stocks—Washoe district.		
Alpha	36	36¼
Baltimore American	—	—
Belcher	135	140
Bullion, G. H.	13	14
Crown Point	42	43½
Confidence	20	21
Chollar-Potosi	139	140
Daney	5	—
Exchequer	16	—
Empire Mill and Mining Co	100	—
Gould & Curry	83	86
Gold Hill Quartz	49	50
Hale & Norcross	43¼	43½
Imperial	95	96
Kentuck	215	217
Lady Bryan	6	7
Ophir	19	20
Overman	62	64
Savage	68	68½
Sierra Nevada	27	—
Yellow Jacket	1405	1410
Golden Rule, California	7	13

San Francisco Market Rates.

Wholesale Prices.

Friday, Nov. 6, 1868.

Flour, Extra, ₱ bbl	$5 75	@	$6 25
do. Superfine	5 00	@	5 25
Corn Meal, ₱ 100 lbs	3 25	@	3 50
Wheat, ₱ 100 lbs	1 50	@	1 55
Oats, ₱ 100 lbs	1 65	@	2 05
Barley, ₱ 100 lbs	2 00	@	2 50
Beans, ₱ 100 lbs	3 00	@	4 00
Potatoes, ₱ 100 lbs	76	@	1 15
Hay, ₱ ton	10 00	@	14 00
Live Oak Wood, ₱ cord	9 00	@	10 00
Beef, extra, dressed, ₱ lb	8	@	10
Sheep, on foot	3 00	@	3 25
Hogs, on foot, ₱ lb	4½	@	5
Hogs, dressed, ₱ lb	8	@	

Groceries, etc.

Sugar, crushed, ₱ lb	—	@	15½
Do. China	10	@	11½
Coffee, Costa Rica, ₱ lb	16	@	16½
Do. Rio	—	@	17½
Tea, Japan, ₱ lb	75	@	90
Do. Green	60	@	1 25
Hawaiian Rice, ₱ lb	—	@	10
China Rice, ₱ lb	6	@	7
Coal Oil, ₱ gallon	35	@	40
Candles, ₱ lb	15	@	18
Ranch Butter, ₱ lb	60	@	75
Isthmus Butter, ₱ lb	30	@	40
Cheese, California, ₱ lb	15	@	20
Eggs, ₱ dozen	70	@	75
Lard, ₱ lb	13	@	14
Ham and Bacon, ₱ lb	14	@	18
Shoulders, ₱ lb	6	@	8

Retail Prices.

Butter, California, fresh, ₱ lb	60	@	80
do. pickled, ₱ lb	30	@	40
do. Oregon, ₱ lb	15	@	25
do. New York, ₱ lb	35	@	45
Cheese, ₱ lb	20	@	25
Honey, ₱ lb	25	@	30
Eggs, ₱ dozen	—	@	75
Lard, ₱ lb	15	@	17
Hams and Bacon, ₱ lb	20	@	25
Cranberries, ₱ gallon	85	@	1 00
Potatoes, ₱ lb	2½	@	3
Potatoes, Sweet, ₱ lb	5	@	—
Tomatoes, ₱ lb	3	@	—
Onions, ₱ lb	3	@	—
Apples, No. 1, ₱ lb	4	@	5
Pears, Table, ₱ lb	5	@	6
Plums, dried, ₱ lb	11	@	13
Peaches, dried, ₱ lb	—	@	—
Oranges, ₱ dozen	75	@	1 00
Lemons, ₱ dozen	1 00	@	1 50
Chickens, apiece	50	@	75
Turkeys, ₱ lb	20	@	25
Soap, Pale and N. O.	7	@	12
Soap, Castile, ₱ lb	16½	@	16

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

Friday, Nov. 6, 1868.

Iron.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar, 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1¾@1¾c ₱ lb; Plate, 1¾c ₱ lb; Pipe, 1¾c ₱ lb; Galvanized, 2¼c ₱ lb.

Scotch and English Pig Iron ₱ ton	$—	@	$40 00
White Pig ₱ ton	—	@	40 00
Refined Bar, bad assortment, ₱ lb	03	@	—
Refined Bar, good assortment, ₱ lb	04	@	—
Soilcr, No. 1 to 4	04¾	@	—
Plate, No. 6 to 9	—	@	04¾
Sheet, No. 10 to 13	04½	@	5
Sheet, No. 14 to 20	05	@	5½
Sheet, No. 24 to 27	05	@	6½

Copper.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb

Sheathing, ₱ lb	—	@	26
Sheathing, Yellow	—	@	22
Sheathing, Old Yellow	11	@	—
Bolts	21	@	22
Composition Nails	21	@	22

Tin Plates.—Duty: 25 ₱ cent. ad valorem.

Plates, Charcoal, IX, ₱ box	12 00	@	—
Plates, I C Charcoal	—	@	11 00
Roofing Plates	10 00	@	10 50
Banca Tin, Slabs, ₱ lb	—	@	30

Steel.—English Cast Steel, ₱ lb — @ 15

Quicksilver.—₱ lb — 55 @ 60

Lead.—Pig, ₱ lb — 7½@ 8

Sheat	10	@	—
Pipe	11	@	—
Bar	9	@	9½

Zinc.—Sheets, ₱ lb — @ 9½

Borax.—California, ₱ lb — 20 @ 23

New York Metal Market.

[Corrected weekly from the American Artisan.]

New York City, Oct. 10, 1868.

Iron.

Pig, Scotch, No. 1 (cash) ₱ ton	$39 00	@	$44 00
do. American, No. 1 (cash)	37 00	@	38 00
do. No. 2	33 00	@	36 00
Swedish, ordinary sizes	105 00	@	105 00
Common	90 00	@	95 00
Refined	95 00	@	115 00
Rods	100 00	@	160 00
Horse-shoe	125 00	@	—
Hoop	130 00	@	190 00
Scroll	150 00	@	175 00
Nail-rods, ₱ lb	—	9½@	10
Spring	—	10 @	—
Tire	—	10¾@	—

Steel.

Bars, best cast, warranted, ₱ lb	—	24½@	—
Sheet, do	—	23 @	—
do. second quality	—	20 @	—
do. third quality	—	17 @	—
Saw-plates, circular	—	29 @	—
Double-shear, warranted	—	23 @	—
Single do	—	20 @	—
Montague & Co. (cast bars)	—	20 @	—
Machinery, round	—	16 @	—
German, best	—	17½@	—
do. goat	—	12½@	—
do. eagle	—	14 @	—
Blister, warranted	—	17 @	—
do. common	—	16 @	—
Jessop & Sons', common	—	17 @	—
Double refined	—	26½@	—
Stone-axe shapes	—	26½@	—

Brass.

High, various widths, ₱ lb	—	46 @	52
Platers'	—	51 @	59
Sheet	—	48 @	55
do. circular	—	53 @	53
Low	—	50 @	56
Wire	—	47 @	1 15

Lead.

American, ₱ 100 lbs	9 50	@	10 25
German	10 00	@	—
Bar	11 00	@	—
Pipe and Sheet	12 00	@	12 00

San Francisco Prices of Copper Ores.

San Francisco, Nov. 6, 1868.

We give the following as an approximate price at which copper ores can now be sold in this city. There is no sale for ores which assay less than 12 per cent. The late reduction in price is on account of the advance of freight:

		Per ton.				Per ton.
12	per cent. ore	$16 00	22	per cent. ore		$43 56
13	" "	18 62	23	" "		46 45
14	" "	23 20	24	" "		49 33
15	" "	23 35	25	" "		52 22
16	" "	26 23	26	" "		55 11
17	" "	29 12	27	" "		58 00
18	" "	29 91	28	" "		60 80
19	" "	34 90	29	" "		63 77
20	" "	37 78	30	" "		66 66
21	" "	40 67	31	" "		69 55

These prices, we believe, will be found substantially correct, and can be realized at this date.

The Brazilian Pebble Spectacles are believed to be the best for the eyes. They can be had at Muller's emporium, 205 Russ Block. *

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County.

Markleville *Miner*, Oct. 24th: The Globe Tunnel is now in 70 ft., and having struck much easier working rock about 10 days since, good headway is now being made. The rock is filled with sulphurets and considerable water is encountered, showing the near proximity to the ore deposit for which the tunnel is running.

The stoppage of work on the IXL mine has caused a fluttering among those who pinned their faith on that for bullion results to keep our snow-bound town alive this winter.

Director Culver is busily engaged in putting his mill in readiness for turning Star ore to bullion.

Chronicle, Oct. 24th: The Pittsburg mill on Thursday last commenced running on IXL ore.

The late strike in the Rippon has created a demand for stock in the Mountain. The rock is more easily worked now, and the tunnel is being pushed ahead with energy.

The Pioneer Quartz Mill, at Markleeville, has been purchased by the Morning Star Co., and a large number of workmen are now engaged in putting it in order for running.

Calaveras County.

Mokelumne Hill *Chronicle*, Oct. 12th: A quartz vein, which for richness bids fair to eclipse any lead yet prospected in this county, was discovered recently near Railroad Flat, in a very singular manner. A man was engaged in hauling saw logs, using a truck for that purpose. He used a rock to "chock" the wheel, which broke under the pressure, and the teamster happening casually to examine it, discovered that it was literally covered with gold. A claim was immediately located and work commenced. A shaft has been sunk to the depth of 30 ft., developing a ledge from 12 to 15 inches in width, of most unexampled richness. We understand that the proprietors offer to bet that they have got a ton of ore that will pay $1,000 for crushing.

Kern County.

The Havilah correspondent of the Visalia *Delta* of Oct. 28th, says: The prosperity of the mines in this district has been retarded this season by the superabundance of water, and the time and expense attendant on procuring proper machinery, and in sinking shafts in view of a vigorous working of the mines in future. Next season will show the richness of our mines to be equal to any in the state. Last spring the Joe Walker Co. had sunk their shaft for a new level, and were nearly ready to begin stoping, with fine rock enough in sight to last them the season, when they were drowned out by the water, which before had not impeded their work. They purchased a new Cornish pump capable of hoisting 2,000 gallons an hour, and will be at work raising quartz this week. H. McKeadney has just returned from San Francisco, where he has made arrangements to vigorously prosecute work on the Delphi and Countess lodes; they are the richest in the district, but are not large. By spring he will be in full and successful operation. Col. Rand has the shaft down on his mine, and has a splendid lode, after sinking through a "horse" for a long distance. The lode is about three feet wide, and exceedingly rich—will not crush rock till spring. The N. Y. & Clear Creek Gold Mining Co. will not be ready to crush rock till spring. A tunnel is being run to tap one of their lodes deeper, which will probably take till spring to complete. There are several other good ledges partially developed that will not be idle long.

Los Angeles County.

The Los Angeles paper says: In the Soledad mine the ten-stamp mill of Polk & Kabler is running, with plenty of rich ore. Several arastras are also in operation, and about 100 men at work.

Mariposa County.

Mail, Oct. 30th: Wm. Sims, a well-known miner of this county, struck a vein of quartz near the Ferguson mine, on the main fork of the Merced river, exceeding in richness anything that has lately been discovered.

Hite & Co., at Hite's Cove, after a run of three weeks, cleaned up the sum of $20,000.

Robert and James Nelson have struck a pocket in a quartz vein near Hornitos, from which they have already bagged $25,000 to $40,000.

Gazette, Oct. 30th: The mill on Buckingham mountain, now being constructed at Harbour & Co's vein, is rapidly approaching completion, and in a few weeks will be sending forth a stream of its golden treasure. Judging from present indications, the rock will speedily pay for all outlay in improvements.

The dam of the Mariposa Co., at Benton Mills, was finished on Thursday last, Oct. 29th. We had an opportunity to examine the work a few days before while the planking was so far incomplete that the internal as well as the external structure could be fully inspected. We should not know where to send a person to see another so strong and massive a combination of wood and iron, for any purposes, as that which, within the last six weeks, has been built into the Benton dam.

Nevada County.

Transcript, Oct. 28th: For some time past workmen have been engaged in running a tunnel in the Jim mine near Eureka, and a short time since they struck a splendid five foot ledge. The quartz is said to be the best ever seen in the district.

Gazette, Oct. 27th: We learn that the contractor has already completed 17 miles of the ditch of the North Bloomfield Gravel Co., leaving only six miles more to be dug to complete the contract. It is the intention of the company, however, to continue the work, and carry it six miles further this fall, by which they will have an additional supply of water. Next season the work will be continued and carried to the South Fork of the Middle Yuba.

Grass Valley *National*, Oct. 29th: This mill has been idle for some time past, owing to the old water wheel having been in a dilapidated condition. Workmen are now engaged in making a new wheel, and it is in contemplation to build a new dam, as the old one was nearly destroyed by the floods of last winter.

The Seven-Thirty mine, from 33 tons of rock, recently cleaned up the sum of $6,097.42, being an average of $184.77 to the ton. The gold is remarkably pure and was bought yesterday by Thos. Findley & Co. for $17.96 per oz.

Grass Valley *Union*, Oct. 29th: The Mutual Mining Co., which works the Jim ledge at Graniteville, a few days since struck in their tunnel a five foot ledge, which looks rich.

EXCELSIOR.—Virginia *Enterprise*, Oct. 30th: We understand that the Emigrant Co., Meadow Lake, recently cleaned up $2,000 from a crushing of 100 tons of their ore.

Plumas County.

Quincy *National*, Oct. 29th: A nice little nugget, perfectly pure and weighing something over 17 ozs., was picked up in the claims of Stevens & Fowler, on Willow Creek, one day last week. This company are averaging about $5 per day to the hand.

New diggings have been struck in the Wild Cat Channel, upon the North Fork in Plumas County. The diggings, it is thought, will prove rich and extensive.

A correspondent writing from Soda Bar, says: This mining camp is looking up, and all the bars from this to Rich Bar are being located by miners, who say that the worked-out East Branch is not half worked out yet. Twelve-Mile Bar is all afloat with miners, who are paying big sums for "played out" diggings.

San Diego County.

San Diego *Union*, Oct. 24th: The Jacum Valley correspondent writes: There has been a party of prospectors here for the last five days, prospecting the mountains for the "root of all evil." Two of them are from San Diego. They have had good success, having discovered three or four rich leads of Silver, only a few miles from this place. Some of the specimens are exceedingly rich. They left this morning, all highly pleased with the result of their labors. It is, and has been the opinion of the settlers, that good gold and silver mines abound in the mountains in this vicinity. Still, strange to say, they have never been prospected for before. If some good miners were to come in here, who were familiar with the nature of both gold and silver, the probability is that they would secure their everlasting fortunes.

ARIZONA.

Prescott *Miner*, Oct. 17th: A recent letter from Hardyville informs us that a large body of rich ore has been struck in Mr. Hardy's mine.

Sol. Jackson and John Roberts, on Thursday last, took a pick, pan and shovel, started up Granite creek, and found prospects of 4½ cents to the pan.

Brooks and Lynn, of Upper Lynx creek, came down from the old camp this week and inform us that but few men are now on the creek and but little doing, the water having almost dried up. Nevertheless, we look for lively times in the old camp as soon as Graves gets his desulphurizer going.

A party of Mexican miners arrived here yesterday from Weaver Diggings, in this county. They inform us that some 30 men are now working in the diggings, and doing very well. Water was scarce when they left.

COLORADO.

Central City *Register*, Oct. 15th: From the gold mines around Empire they are taking $10 per week for every man, woman and child in that vicinity....Gentlemen interested in the Baker mine are out from Philadelphia, and have made arrangements to continue work....Mr. Cash has his mill in Black Hawk nearly ready to work. It is put up in a very superior manner, and is expected to do good work.

Ores of the Terrible lode smelted at Newark, New Jersey, yielded between $700 and $800 per ton....About two miles below Black Hawk, on Clear Creek, Alex. Cameron has a creek claim on which are working 10 men, taking out about $8 per day to the man, Saturday they took out a nugget weighing 51 pwts. 6 grs.....Robt. Frasier of Cañon City, laid on our table yesterday samples of silver ore from mines newly discovered, located on the Platte five miles down the river from the forks, on the South Park road. The ore before us is argentiferous galena apparently containing some brittle silver. It looks extremely well, and if it does not assay well its looks deceive. Another lode located there produces quite a different ore which we have not seen, but from description probably contains considerable decomposed zinc, and is reported rich in silver. The crevices are reported wide and the body of ore strong. The ore shows the presence of country rock different from that of Argentine or Snake River.

Denver *News*, Oct. 14th: Mr. Fleming, one of the company which has been working McNulty Gulch, Summit County, was in town to-day, disposing of some gold dust. He had some beautiful specimens with him. The gulch has paid uniformly $10 per day to the man, during the season. Work has now ceased.

Since the first of the month Cyrus Hurd started 20 new stamps in Black Hawk, and Mr. Brastow about the same number in Lake Gulch.

The following is a summary of some of the runs made at the reduction works of Huependen, Wolters & Co. since last May: 31 tons Equator ore, average assay, 118 6-10 ozs. per ton, total yield $3,823.66 in coin, average per ton, $123.34 in coin; 10 tons Equator ore, average assay, $158 4-10 ozs. per ton, total yield $1,648.40 in coin, average per ton, $164.84 in coin; 10 tons Equator ore, average assay, 124 7-10 ozs. per ton, total yield, $1,300 in coin, average per ton, $130 in coin; 24 tons 700 lbs. Baker ore, average assay, $57.29 per ton; total yield $1,120.40 in coin; 12 1-10 tons Astor ore, average assay, 121¾ ozs. per ton; total yield, $1,569.19 coin; 8 tons Buckeye ore, average assay 77¼ ozs. per ton; total yield, $618.58 coin. 20 tons Clift ore, assay, 72 ozs. per ton; total yield, $1,497.60 coin; 2 35-100 tons Clift ore, average assay, 90 ozs. per ton: total yield, $223.02 coin; 9 1-10 tons Lillie ore, average assay, 150 ozs.; total yield, $1,406.28 coin; 8 tons Sonora ore, average assay, $80.03 per ton; total yield, $512.24 coin.

These ores are all second class. The amount saved is from 80 to 85 per cent. of the assay.

Mr. Gould, of the Sterling Co., informs me that during 30 days he mined 40 cords of ore, selling first-class at $221 currency per ton; second class at $78.85 currency per ton; and the third class yielding $150 per cord in the stamp mill. The proportion, Mr. Gould says, was 1-10 first and second class, and 9-10 third class.

A 100-stamp mill is being erected by the Consolidated Gregory Co. Fifty stamps will be ready to run by Nov. 1st, and the balance next season. The mine is being developed in the meantime, and put in a condition to work 100 men, if necessary.

The Smith & Parmelee Co. are putting up a new 25-stamp mill, and have a new 75-horse power engine. The work will be completed and the mill running by November 20th.

Georgetown *Miner*, Oct. 8th: Huependen, Wolters & Co. have shipped, since our last issue, 1,307.25 ozs. of silver bullion, coin value $1,430.83. They are now engaged in excavating for the foundation of another chloridizing cylinder, which will make their works double their present capacity.

At the Brown Co's works they commenced smelting ore from the Brown lode on Monday last, and have out a large quantity of lead riches.

The shaft on the Munsell lode, situated on Leavenworth Mountain, is just coming into mineral again. The last 15 ft. passed through has been barren.

Bruckner & Schirmer commenced desulphurizing on Tuesday evening last, and in a few days they will be turning out lead riches.

DACOTAH.

Virginia *Enterprise* Nov. 1st: A letter written from South Pass City, dated Oct. 4th, says: "I am in the Sweetwater mines, working like a tiger. I am taking out some of the richest rock that the earth ever produced. This country is going to make another California. We have the mines and the finest rock I have ever seen. There is but one mill here as yet; it is owned by Col. Tozier & Co., of Nevada. But this is not capable of crushing a twentieth part of the custom rock that is every day brought to the mill. There are two other mills on the way here from Chicago, Ill., which will arrive in the course of 20 days, when we hope to have lively times. One of the mills is owned by Mr. Mills, of Virginia City, Nev. It is a 20-stamp mill.

IDAHO.

Boise *World*, Oct. 21st: Two miners near Centerville, who had come from Deadwood nearly broke, and who hired out to work on one of the claims in Baboon Gulch, while prospecting near there struck good diggings, from which they have steadily taken good pay.

The quartz mining about Warren's is steadily progressing in importance. Several arastras are paying well, and the new 10-stamp quartz mill of Capt. Williams will be ready to work next season.

From Channel & Thatcher and Mr. Goldtrap, the owners of the two principal mining ditches at Centerville, we learn that never in any previous season has the water been at so low a stage as at present. In both ditches not over between 400 and 500 inches of water now course; but the volume in each ditch will not further diminish this season, and will last until the winter stops the mining for the year. There are over 200 white men steadily at work in and about Centerville district, within a circuit of three miles, and more than this number of Chinamen. And the larger portion of these miners will be able to continue profitably at work until hard freezing weather compels them to suspend operations for this season. From very good to fair wages are usually earned, while some are reaping rich pay. The prospects for the ensuing season, provided the winter shall be favorable to mining, are very gratifying.

Owyhee *Avalanche*, Oct. 18th: Information reaches us of a rich gold discovery recently made on Lightning Creek. It was found in the hill behind the old Butcher claim. Another gold discovery is reported on Hard Scrabble Creek.

MONTANA.

Helena *Post*, Oct. 23d: Wm. Nowlan, Con. Weary and Capt. Fleeson, arrived in Helena last evening from Cable, bringing with them 367½ ounces of retort, the product of a 7 days' run in the Wm. Nowlan mill, on ore from the Cable mine. This retort is of a good quality,—averaging .900 fine, and loses less in smelting than that from any other mine in the Territory. That brought in last evening was worth nearly $7,000 in coin.

F. Bohn & Co. yesterday manufactured $15,000 worth of bricks.

Great excitement has been occasioned at Diamond City recently by the discovery of rich deposits of gold in the lower portion of Confederate gulch. During the latter portion of last week, parties at work in the lower drain ditch, near the Cañon House, found prospects of $2 to the pan, and similar pay has been found in the drain ditch next above. This becoming known, the whole gulch was immediately in a fever of excitement, each individual organizing a stampede on his own hook, and planting himself on the first unclaimed ground that he could find. The consequence is, that the whole gulch has been taken up by claimholders as far as the stage station, at the mouth of the cañon, and it is even thought by some that the ground will pay from that point the entire distance to the Missouri river. Confederate gulch is now staked its entire length, or over 8 miles, and is rightly considered one of the best and most prosperous camps in the country. It now has 14 drain ditches and bed-rock flumes, either in operation or in process of construction, in all of which satisfactory results are being obtained.

The Nelson Gulch correspondent writes: On Discovery, Ricker, Gow & Co. are sinking a shaft and expect to strike it rich. On claims Nos. 5, 6 and 7. S. Arthur & Co. are making wages, and John Gow & Co. are doing the same on Nos. 8, 9, 10, 11 and 12. Above this, Nelson Gulch is not worked at present. Harlan's Bar, situated in the vicinity, is very rich. On Discovery and Nos. 1 and 2 above, Harlan & Co. are making $9 per day to the hand. Nos. 3 and 4 are owned by John Gow & Co., and all the claims from 5 to 12 inclusive by McDannal & Co. These claims are very rich and would

pay from $5 to $6 per man to the hour if water could be had for working them. White & Co. own a sag running from the Park and forming a junction with Nelson just below the Gorruley mill. The ground is rich and would pay at least $18 per day to the man if water could be had for working it. For the purpose of providing water, this company has constructed a ditch two and a half miles in length at an expense of $2,500, but it is found to be not of sufficient capacity.

NEVADA.

Humboldt.

Unionville *Register*, Oct. 24th: The contractors are progressing finely in the erection of the new mill for Stewart & Co. The owners of the '56 mine, near the Humboldt river, have made arrangements to ship by the Central Pacific Railroad 10 tons of ore to San Francisco.

The last lot of 10 tons of Monroe rock worked $75 per ton. This clean up is quite satisfactory, but the next he thinks will go higher. The mine continues to improve every day.

Gov. Fall's mine looks better now than it ever did before.

Holt's mill, at Gold Run, will be in running order in a few days, when he will commence work on ore from the Golconda mine. He has a contract for crushing 400 tons of ore.

Fall & Co. shipped this week, per Wells, Fargo & Co's express, 2,800 ounces of fine bullion.

The Battle Mountain mill, owned by McBeth, Atchison & Co., is a perfect success, and by its first run has demonstrated the fact that their mine is a big thing. Ten tons of very inferior ore were first run through the mill in order to get the batteries, pans and machinery in good condition for work, which, when cleaned up gave $500, or at the rate of $50 to the ton. The company is now working 50 tons, which will yield at the rate of $200 to the ton, or $10,000 for the whole.

The Austin *Reveille* of Oct. 26th, speaking of the Little Giant ledge on Battle Mountain, says: The value of this ledge is undisputed. Shortly after its discovery a mill owner named Atchison erected a mill on Long Creek, in the vicinity of the mine, and worked the ore to advantage. Of a large number of tons worked, the average yield exceeded $200 per ton. The ore is worked without roasting, and probably not over 60 to 70 per cent. of the silver is reclaimed. The mine is pretty thoroughly developed by tunnels and shafts, in which which the small vein of highly concentrated ore is regular and undisturbed from the surface downward.

Winnemucca *Argent*, Oct. 29th: There was shipped from the Golconda mill bullion weighing 90½ lbs. last week. It was worth $1,100.

Ten tons of ore from the Monroe mine at Dun Glen, recently worked, gave an average yield of $73 per ton.

Alex. Middleton, of Paradise, informs us that gold has been discovered in Woodman's Cañon, on the west side of Paradise Valley.

The Unionville correspondent writes: Mining matters are favorable. Both mills are running and the mines turning out splendidly. The boys in the Arizona Consolidated have struck a fine ledge in their shaft at a depth of 90 ft., and the ore is alive with silver. Specimens brought down yesterday show native silver in large quantities. A track has just been put in the incline, and four or five tons of this kind of ore will be taken out daily while the shaft is progressing downward. A contract has been let to run a tunnel to the Halleck, Golden Eagle, and other ledges comprising the property of the Seminole Co. Work on the Agamemnon will be resumed as soon as an air pipe is put into the tunnel.

Austin *Reveille*, Oct. 26th: The Atchison quartz mill in Battle Mountain district, is run altogether and successfully with no other fuel than sage brush. And we learn that the proprietor of the mill says it is more economical fuel than wood at $10 a cord. Indians gather the brush for $1 a day, and one man and a four-mule team keep the mill supplied. The nearest timber is some 15 miles from the mill.

Reese River.

Austin *Reveille*, Oct. 23d: We saw this afternoon at the assay office of David Lundbom 5 bars of bullion, of the average fineness of .965, and valued at $6,664.97, which were brought into this city yesterday afternoon from the mill of the Monte Cristo Co., at White Pine. The bullion is the product of ore obtained from the Eberhardt South.

Several parties left the city yesterday for the scene of the reported discoveries of rich ore at the point called Duckwater, 30 miles south of White Pine. Others talk of following to-day or to-morrow on the same business. The new discoveries are reported by rumor to be equal to the best mines in White Pine.

Oct. 24th: We saw to-day at the assay office of Boult & Stetefeldt a small bar of gold valued at $350, which was produced by the mill in the district of New Pass.

A couple of wagons arrived in this city yesterday with hoisting apparatus from Yankee Blade, which we were informed was to be taken to White Pine.

We were informed yesterday that the Twin River Co., which owns a superb mill of 20 stamps capacity and the famous Murphy mine at Opair Cañon, in Nye County, about 55 miles south of Austin, has declared itself bankrupt.

W. S. Gage & Co. received to-day 16 bars of bullion, averaging .967 fine, and valued at $22,532.14, from the Centenary mill in the district of Newark. The bullion was produced partly from ore from the Eberhardt South in the district of White Pine, and the remainder from the mines of the Centenary Co. The mill of that company has been very productive lately.

This morning, 22 bars of fine bullion, valued at $32,000, were brought to the National Bank in this city from the district of White Pine. They were produced at Page's mill, at Silver Springs, and were obtained from ore of the Eberhardt South.

Oct. 26th: On Saturday evening, eight bars of bullion, averaging .978 fine, and valued at $11,062.56, were brought into the National Bank of this city from the Monte Cristo mill at White Pine.

Yesterday some 3,000 ounces of crude bullion arrived in this city from Rigby's mill in the district of San Antonio.

Oct. 29th: Five bars of bullion, of the average fineness of .984, and valued at $6,732.23, were brought into the city yesterday from the mill of the Monte Cristo Co., at White Pine.

Oct. 30th: A wagon arrived in this city yesterday afternoon from the mill of the Centenary Co., in the district of Newark, with 23 bars of bullion. The bullion averaged .965 fine, and is of the value of $32,836.35.

Virginia *Enterprise*, Oct. 28th: Parties from White Pine tell it as a fact that in the towns in that region lumps of silver ore are used as a circulating medium, and is found to answer very well in the absence of a sufficiency of coin. Even at the gaming tables, ore goes. The kind of ore used is the pure chloride, which is so rich as to be quite malleable. A miner with a sack of this kind of currency under his arm marches up to a faro table, takes out a chunk, and plants it upon a card, calling its value as he puts it down. For instance, the chunk is supposed to be worth $5, the miner as he puts down says, "Five dollars." The faro man picks up the lump, looks at it, and if satisfied, says, "Five dollars goes," then wins the lump, and throws it into a gunny sack standing behind him.

The Grass Valley *Union* says: Billy Hale, an employé in the office of Wells, Fargo & Co., in this city, yesterday took a piece of White Pine ore to the assay office of Bousfield & Co., for assay, and was somewhat surprised to obtain from the lump—which was hardly as large as a man's fist—a bar of silver weighing six ounces.

Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.

Virginia *Enterprise*, Oct. 28th: The shaft in the Imperial Empire is now down 1,025 feet. At the depth of 1,100 feet, a new level will be opened. The rock is at present very hard, and Giant powder is used in blasting it.

Oct. 30th: Mr. James Maloue, of this city, yesterday showed us a silver brick worth $7, which was extracted for him by Wiegaud & Co. from a lump of White Pine ore weighing 2¼ pounds.

Oct. 31st: There was shipped from the express offices in this city and Gold Hill during the past week 6,754 pounds of assayed bullion, valued at $180,626.73.

Gold Hill *News*, Oct. 28th: The west drift at the 900-foot level in the Imperial mine has penetrated nearly 450 feet from the new shaft. The face is in quartz and porphyry, with no very good indications of ore. Having so nearly reached the west wall, the chances for cutting a rich streak are rather slim. The drift from the winze, 50 feet below the 700-foot level, is in 60 feet, and shows no indications that the body of ore found in the level above extends down that far. Good quantities of excellent pay ore continue to come from above the 400-foot level. The new shaft is expected to develop good ore at the 1,100-foot level when it shall be opened.

The Chinese gold mining excitement is subsiding.

Engineering.

[Written for the Mining and Scientific Press.]

N. Y. Society of Practical Engineering.

The Association met on Tuesday evening, October 13th, President James A. Whitney in the chair.

The regular subject for discussion was "Air Motors and Atmospheric Propulsion."

A paper on this topic having been prepared by Mr. Perry Dickson, M. E., was read by Mr. Wm. B. Harrison, the Recording Secretary.

In opening, the writer of the paper briefly reviewed the early systems of air propulsion which in England some twenty years ago excited much attention and involved the loss of much money in the attempts to carry them into practice. One of the first and most noted of these was one in which a suction tube was laid the entire length of the line and formed with a longitudinal slot in its upper side throughout its whole extent. This slot was covered by a flap or valve attached at one edge of the slot and opening to permit the passage of the rod or shank which connected the piston within the tube, with the car running above it. The air being exhausted from the tube in front of the piston, the pressure of the atmosphere behind the latter of course moved the same with the car attached thereto. This plan failed after a trial of eighteen months, from the difficulty of keeping the longitudinal valve intact, although when the whole was in good order a pressure upon the piston of ten pounds per square inch was readily obtained. A similar result followed the adoption of a plan in which the shank connecting the piston with the car was made flat, like a knife-blade, and passed through the slot in the tube between the two elastic air-pipes, which closed the slot by their contact in front of and behind the shank as the piston moved along.

With regard to the well-known plan of providing the cars with tanks to contain compressed air to feed the driving engines, the writer urged the objection of the great weight of the tank required to carry air at any moderate pressure sufficient to propel the car for any considerable distance. Thus an ordinary car would require a tank holding sixteen hundred feet of air, at a pressure of one hundred pounds per square inch to run a mile, while by increasing the pressure and diminishing the size of the tank, the liability of loss by leakage would be materially increased. The system of interchangeable tanks, charged with the air compressed, would occupy too much time in substituting the charged tanks for the empty ones, and coupling them to the engine. Calorie engines were declared unsuited to the purpose, the writer claiming that their power is over-stated, and besides, they do not get rid of smoke and gases, which is essential in any improved means of propulsion. With regard to the "pneumatic tube" system, in which the carriage constitutes the piston and is forced through the tube by atmospheric agencies, the author expressed the oft-repeated and common opinion that although fitted for the transportation of parcels, its use for passenger travel is inadmissible. The use of carbonic acid gas engines, which has sometimes been suggested in this connection, was briefly reviewed, the writer showing that in order to save the comparatively costly gas, to be used over and over again, would require the employment of a receiver of preposterous size. He concluded by explaining an invention of his own, which he believed would be found to constitute a most efficient means of propelling cars by compressed air. In this the air is compressed by stationary engines into a tube laid the whole length of the track and furnished at intervals with apparatus by which the air may be automatically supplied to small receiving tanks, placed on the car, without stopping the latter.

In the debate succeeding the reading of Mr. Dickson's paper, much curious and interesting information was elicited concerning the early history of this department of engineering, and the causes that have caused or promoted the failure of the different plans. Mr. J. K. Fisher stated that one great obstacle in the way of successfully employing atmospheric propulsion for cars, will be found in the difficulty of running the cars in quick succession; but no difficulty will be found in keeping the air compressed to the requisite degree in the reservoirs or tanks. In some of the early English trials the air was compressed on Saturday and left over until Monday, before using. Mr. Creuzbauer said that the greater the degree of compression the greater the heat evolved and dissipated, and of course the greater the proportion of power lost. Mr. Dickson's method, just explained, possessed the merit of working with air at low pressure, by which waste from this cause was greatly lessened. Mr. Samuel Carson explained a method projected by him some years since, in which the cars were provided with receiving tanks to be filled with compressed air from stationary reservoirs along the line, the valves of the tanks being so operated as to regulate the admission of air to the engine in an inverse ratio to the pressure in the tank, so that the speed of the engine would be kept up irrespective of the gradual diminution of pressure in the tank, until such pressure was reduced to nearly that of the atmosphere. The debate was shared by Messrs. A. W. Hall, Wm. B. Harrison and others;

Mr. Jas. Harrison called the attention of the members to a model embodying some very recent improvements in his machine for removing snow from streets and railway tracks, by melting. In this the snow being carried by conveyors to the flat top of a traveling carriage, is melted by jets of waste steam from the engine boiler, and by heat from a furnace applied to the flat top just mentioned. In the remarks drawn out by this device, the forcing downwards upon the snow of blasts of hot air, of exhaust steam, and of mingled steam and hot products of combustion from a furnace, were severally indicated as means by which the snow could be melted and removed from the street should the cost of fuel not be too great.

The Society adjourned for two weeks, with the announcement that at the next meeting the subject of "Sewers and Sewerage" would be taken up for consideration.

Railroads and Real Estate.—The Stockton and Tulare Railroad Company, Friedlander and others, will bring large tracts of fine agricultural lands (owned by some of the projectors of the company) within reach of the markets, and thereby greatly enhance the value of the same. A similar enterprise in the San Bernardino and Anaheim Landing Railroad Company, consisting of Holladay, Atherton and others. The idea is worth applying in hundreds of similarly situated land sections. Where the cost of a first-class railroad would not be warranted, roads of a cheaper character might be made to answer sufficiently the purposes of development. Engineers will do well to give some attention to the construction of cheap roads in this State—with wooden rails, perhaps, and light engines for local traffic.

Submarine Blasting.—The proprietors of the Giant Powder patent in this State have been making experiments in the blasting out of the submerged Blossom Rock in the harbor, which are claimed to be particularly favorable to the employment of that agent. It is found quite effective when discharged on the surface of a rock without being closed in a drilled chamber. Engineers are agreed that for the removal of large masses of rock and earth a slow acting powder is best, because it shakes and disintegrates the mass before it can escape, while a violent powder would make its way to the surface through one or more fissures, and spend much of its power in the open air.

A telegram from Shanghai, announcing the wreck of the steamer Benares, reached London, via Russia, in nineteen days—the quickest communication from China on record. It will not be long before the telegraphic connection with China will be accomplished, if not via Russia America, then via Russia or India; but the probabilities now are that English engineers will get the line up the Indus and down the Yang-Tze constructed long before the Russian American project will be resumed, or any Pacific cable undertaken. Where are Shaffner and Collins?

The Pacific Dredging Company has filed its certificate of incorporation, at a capital stock of $500,000, in 5,000 shares of $100 each.

MINING AND SCIENTIFIC PRESS.

W. B. EWER,.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

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Our Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1868.

Dr. L. G. Yates is our duly authorized traveling agent. July 6, 1867.

Mr. A. B. Butler is a duly authorized traveling agent and correspondent for this paper. July 15, 1867.

Resident Agents.

HELENA, Montana.—R. F. MAY.

BLACK HAWK, C. T.—Harper M. Orahood.

CENTRAL CITY, C. T.—Messrs. Richards & Crane, of the City Book Store, Main street, will act as our agents.

GEORGETOWN, C. T.—John A. Lafferty, Postmaster, is our agent in this place.

DENVER CITY, C. T.—Messrs. Woolworth & Moffat, are our agents for this place.

CHEYENNE, D. T.—Mr. Robert Beers is our authorized agent for this place.

OMAHA, N. T.—Messrs. Barkalow & Brothers, are our agents for this place.

San Francisco:

Saturday Morning, Nov. 7, 1868.

Notices to Correspondents.

FURNACE BUILDER, Humboldt.—For the fusion of pure quartz a heat is required as intense as that which is given by the oxygen-hydrogen blowpipe; by which it can be melted into a transparent glass, and drawn into fine, flexible, elastic threads. In its purely anhydrous state, quartz is insoluble in water and all acids excepting the hydrofluoric. It is not volatile when heated alone, but, if accompanied by a current of steam, it will undergo partial sublimation, as is not unfrequently evidenced by the concretionary nodules sometimes found in the throats of furnaces, resembling in appearance ordinary caledony.

DYER.—Aniline colors are so called on account of the basis of most of them being formed of various degrees of oxidation of aniline, the basis of the coloring principle of indigo. These beautifully brilliant dyes are obtained from coal tar. It was Professor Hoffman who first pointed out this unwrought field. The practical benefits are traceable not only to the impetus given to inquiry by the above recommendation, but also to the recondite experiments made by that eminent chemist on aniline, its derivatives and compounds. Until the aniline dyes came into vogue, similar but more fugitive brilliant tints were obtained from lichens.

M. F. W., Sacramento.—We regret that we cannot refer you to any work specially devoted to *gold and silver mining*. There are several works on the reduction and metallurgy of these metals after their ores have been brought to the surface of the earth, or, to use mining language, brought to grass. But of *mining* for these metals *per se*, no work exists. Ordinary copper mining, however, greatly resembles gold and silver mining. Prof. W. W. Smith published, we believe, in London lately, a most excellent little work containing a synopsis of every description of mining. We suspect, however, no copy is obtainable in California. You will find some good remarks in Ures' Dictionary.

RANCHERO, Alameda.—Tobacco is one of the most, if not the most exhausting of crops, which an agriculturist can cultivate, as it carries away from the soil not less than 21 per cent. of the growth in the dried leaves, of which potash alone contributes one-third and nitric acid occasionally one-tenth. Our Chinese gardeners know how to make practical use of this fact, as the observer will find that with them tobacco stalks are extensively employed as a top-dressing in the suburban cabbage gardens.

S. G.—Pure iridium does not dissolve in oil of vitriol, nitric acid, or melted bi-sulphate of potash; the latter, however, slowly converts it into sesquioxide, without being dissolved or absorbed, which, when heated above the melting point of silver, becomes resolved into metallic iridium and oxygen.

G. R. W., Grizzly Flat, and WOOSTER, Santa Clara, next week.

Earthquake Philosophy, and Earthquake-Proof Building.

"What is your theory of earthquakes?" To this question a writer in the November *Overland Monthly* replies:

"You and I have no right to form a theory on the subject. It is the curse of scientific inquiry that you start with a theory built upon one fact; your theory is like an Irishman's wheelbarrow loaded with dirt: it is supported on one wheel—the rest you carry. They only are entitled to respectful consideration for their theories who have exhausted all the material of facts, bearing upon the subject, before fixing upon a theory. There are those whose opinions are entitled to the most respectful consideration, who for the last twenty years have been laboring to bring order out of chaos in the phenomena of earthquakes, to determine their laws, and by the aid of mathematics they have reduced their manifestations to an exact science, upon which they have bestowed the name of 'seismology.' This has been done while you have been speculating in stocks, trading jack-knives, or growing rich by the advance in water lots.

Mallet, Scrope, Dana, Deville, and older observers like von Buch and Humboldt, whose scientific lives and labors seemed to have grown out of the great contests which immediately followed the birth of Geology, between the Neptunians and Plutonians—the aqueous and the igneous theorists—have furnished us with a mass of interesting and relevant facts on the subject of volcanoes and earthquakes, concerning the intimate relationship of which no well-informed person can express a doubt; and the Physical Atlases of Bergbaus and of Black, contain dozens of elaborate charts, maps, graphic tabulations, plans and profiles, illustrating the laws which have been developed by the closest observation and thought of thousands of well-informed persons on the subject, for more than half a century. We designate the positive results arrived at in such cases by the short word "science," the signification of which is too often confounded with the very opposite of "theory," which is the especial field and province of uninformed persons, who are nevertheless quite frequently ready to argue their case, without having read the briefs. The writer above quoted continues, very much to our own way of thinking:

"It may be determined, for example, with great accuracy, from a certain number of observations within the circle of earthquake influence, what place is vertical over the focus or starting-point of the shock; and at what depth below the surface that force was exerted to produce it. And all the phenomena that follow are proper subjects for physical science and mathematics—whether they have reference to the crust of the earth, or the buildings constructed upon it; but the origin of the power which has produced these phenomena may be still a subject for speculation—whether to the snap and jar occasioned by the sudden and violent rupture of solid rock-masses (as is held by Scrope) or to access of a greater or less quantity of water to the red-hot lava of subterranean fires," (as is held by Mallet). * * * * There are some facts of practical importance that we should all know: that the primary shock, of which we have no warning, (either through the barometer, thermometer, or magnet, any more than through our eyes or nose,) is, when from a great depth, followed by second waves at right angles to it, like the waves when a stone is thrown into the water, and which are often more destructive to buildings than the normal shock. It is also known that the most destructive effects are felt on soil of low elasticity, as clay and alluvium, and least on firmest rock. The earthquake at Lisbon, in the space of a few minutes, destroyed sixty thousand lives in that portion of the city built upon the tertiary formations; *but not a building was injured on the secondary limestone or basalt.*" * * * * Other things being equal, the shock would be more severe on the alluvial formation around the bay than on the rocky ground."

Probably there is also some difference in the effect, attributable to the character of the rock, whether stratified, jointed and seamed to a great extent, or volcanic. It is the earthquakes that open the cracks and seams in the earth, which are afterwards filled with mineral deposits of the class known as true fissure veins.

No science exists which has not its immediate practical bearing, for its history will show that it was the latter invariably which furnished the clue to thinkers, and which gave the impulse to development. It seems to have been left to the Anglo-Saxon race to devise a system of economical earthquake proof building; for the Latin races still build, in Naples as well as in South America, with the simple floor timbers resting on fragile walls, serving as the best devisable trap for the mangling and wholesale slaughter of the devoted inmates. Worthy of consideration in this connection are the recommendations of a judicious citizen, Mr. George Gordon. He recommends alterations in the method of building, as follows:

First—That extreme care be taken with foundations, no matter whether on solid or made ground; let the entire bed-frame on which the building rests be a unit, like a ship's keel, and strong enough to bear twice the weight of the building if set up on posts ten or twelve feet apart, and so tied together that you could lift it bodily by a derrick from any point and swing it about.

Second—Dispense with the use of brick, stone or cast iron, except as an exterior protection against fire. Give these materials nothing else to do.

Third—Rely on timber and wrought iron entirely to carry the load and resist motion. Mortice all timbers and rivet all iron. Use boiler plate with angle iron riveted to it, above and below all openings, as sills and caps. No form of iron comeatable in this market is so simple, cheap and strong as these combined.

Fourth—Dispense with lathe and plaster, and face the inside walls, and make the ceilings with tongued and grooved lumber. Put up every board, and lay the floors so as to form diagonals—bracing in every direction. In nailing, put every nail square through the face of the boards, and discard the silly carpenter's foible of blind nailing.

Fifth—The lower the ceilings, and the more numerous the rooms in a building, the stronger is the structure.

The cost of such a building as I have been describing will not, including the foundation, exceed the cost of an ordinary building of the same size more than $1,500. My remarks, in this letter, are intended to apply to buildings of moderate cost.

For our comfort I will add a piece of information obtained from a friend. In one of the South American cities—I forgot which for the moment—there stands intact a dwelling house built to resist earthquakes. The city is a heap of ruins, but this house not only sustained the shocks unharmed, but was filled with the tidal wave without budging—an aggravation which cannot possibly happen to San Francisco.

On the same subject, the writer in the *Overland Monthly* exhibits sound judgment, and touches the true issue, in the following remarks:

"It is certain that entire safety may be assured to life and property on solid ground by proper attention to the construction of buildings, though we should have earthquakes as severe as are recorded; and it is as certain that all improperly-tyed walls, of poor mortar and as poor bricks, will be tumbled down to the peril of human life, as that earthquakes will occur, as they have occurred in the past. Especially should all walls with fronts veneered with stone be immediately taken down. It is mean and cowardly to patch up these structures and plaster up the broken chimneys, trusting that the shock that will hurl them to the dust will not come in your time, or until you have sold the property. The terror inspired by an earthquake is measured by the lives that are lost; and if a falling wall or chimney should invariably come upon the head of the owner, it would be a sad thing, but it would be infinitely sadder that the blameless should be stricken down by so unnecessary and reckless a cause. Architects are called to survey public buildings only to determine—not whether they are capable of withstanding a severer shock than we have yet had—but whether they are likely to fall without external aid. The street is barricaded until the rickety structure is secured; the workmen in the meantime trembling for their own safety. The dislocated chimney is carefully replaced, the fracture is pointed up with mortar, and the trap is set—for whom? Can there be no commission with power to command that all buildings and walls or chimneys endangering life, private as well as public, shall come down?"

Chemical and Metallurgical Works.

It is of the utmost importance to our new States and Territories, and to every individual interest connected with manufacturing and mining, that we should be up to the "times," and possessed of the latest developments of practical science and specialism in older parts, relating to chemistry and metallurgy—the corner stones of our industry and existence as a State, or cluster of States, beyond the condition of miserable hide-producing and potato raising ranches.

In mining and metallurgy, an indubitable want of confidence has existed on the part of a portion of the best working element for the development of the country in "scientific humbugs," such as Whitney, Silliman, and Blake, are honorably distinguished to be, not to mention a host of meritorious but less theoretic and more practical men, who are now engaged in out of the way districts, in furnishing soul to that branch of our industry. The existence of a few real, with not a few practical humbugs, argues nothing more than that a prevailing ignorance as to the genuineness of that kind of scientific merit which can make or save dollars, has permitted pretenders to thrive, and tempted some men of scientific acquirements to assume to be all that others have supposed them to be—oracle, alchemist and astrologer, in one. Such matters, however, regulate themselves very speedily. Capitalists find out soon enough the importance of fortifying themselves against foolish expenditures and investments; while the talkers subside as soon as the first case of real difficulty presents itself, and it is the unassuming practical men possessed of the requisite technical acquirements, who are, or ought to be, relied upon in the mills and mines. In manufacturing, on the other hand, little was ever risked to the luck, or trusted to the management of "genius." Experts are sought for and obtained at the very commencement, and chemistry and the practical sciences are acknowledged to be the foundation of every procedure.

Not a steamer lands from the interior, or from the northern or southern coasts, but brings to us in San Francisco one or many inquiring individuals, or expectant speculators, bearing with them a new or a refractory ore, an unknown mineral that is supposed to be of economical value, or some known valuable substance that is to be quantitatively determined. Usually these people try to find their way to capitalists at once, while they should go first to the technologists.

Concerning this indispensable class, consisting partly of professionally-educated gentlemen—technical specialists—and their establishments here and there in San Francisco, we propose to furnish our readers with a few facts, describing things and speaking of persons as we have found them.

THE PACIFIC CHEMICAL WORKS,

are located in that pretty large expanse of country—now all city—which is commonly designated as the Mission, corner of Folsom and Sixteenth streets. Louis Falkenau and Henry G. Hanks are the proprietors, and respectively superintendents of two separate departments, the former of analytical and manufacturing chemistry, the latter of assaying, metallurgy, paint manufacture, etc. Both are thoroughly informed, theoretically and practically, in their business, having gone each through his own proper "mill" to become so. Sage brush and laboratory experiences are happily blended. Nothing is manufactured here but articles that are demanded in the market, and in which competition from abroad would be an impossibility. The Works are not merely founded on a very sound and safe basis, but are certainly of such usefulness, in our progressing development, as to be deserving of every encouragement, being of themselves an important develop-

ment of manufacturiug on our coast; and furnishing articles in which the principal aim is to be at the head of the market by virtue of superiority mainly. Amongst the articles furnished are sulphuric ether, nitric and acetic acids, aqua ammonia, cyanide of potassium, and a great variety of industrial, photographic and pharmaceutical chemicals. Within two years and a half these works have been enlarged threefold, so that they constitute now the most complete laboratory on the coast, occupying a 50-vara lot adjacent to Mission Creek, with ample room accommodations for manufacturing on a large scale.

A walk through the establishment evidences recent progress, in enlarged apparatus, increased space, and in the multiplication of products for industrial uses; its origin dating from 1866. Furnaces, kettles, retorts, boilers, stills, evaporators, sandbaths, cupels, scales, steam engine, mills, glasses and bottles, are sufficiently descriptive of what one can see in the interior. Everything is done here pertaining to the science and art of chemical and metallurgical metamorphoses. Ores are worked experimentally, with a view to determine the best processes. Particular attention is paid to the analysis of ores, minerals, metals, etc. Raw products, animal, vegetable and mineral, left for examination, will also receive attention. Examinations in poisoning cases are made occasionally. The office of Messrs. Falkenau & Hanks is at No. 619 Montgomery street. Mr. Falkenau also has the official appointment of State Assayer.

KUSTEL & HOFMANN'S METALLURGICAL AND ASSAYING ESTABLISHMENT.

This is located at No. 611 Commercial street, above Montgomery, occupying two floors, and the yard in the rear. There is a gold and silver bullion and general assaying department; a metallurgical department for working ores up to 100 pounds by fire, or by chlorination, the tanks for which occupy considerable space; an analytical department, for determining the chemical ingredients and proportions of minerals and ores; and instruction is given besides, in chlorination more especially; improvements having been made therein by Mr. Kustel looking to economy in the use of chemicals, and in applying the manipulations of the process to silver as well as to gold ores, which is a very important matter for many mining localities. Kustel's reputation as a metallurgist and mineralogist stands deservedly high. Bred and educated in the Hungarian mining district and School of Schemnitz, and also a student of Freiberg, he is probably more thoroughly conversant with the methods in use and best adapted to the treatment of ores containing refractory ingredients, or located in countries with restricted appliances for metallurgy, than any one else in America, respecting either American or European processes, having been in the midst of Washoe doings and of our silver history from the beginning. We can scarcely realize, in these times, how much of our knowledge concerning the treatment of silver ores was originally derived from a few individuals. A handy "trick" travels from one mill to another with remarkable speed; and expense is no consideration when silver is the article in question. Kustel's work on American metallurgy is the standard, and only methodical book on the subject; it is treated with great respect by the highest European authorities. His work on chlorination is the only thing extant treating that subject fully, from a practical metallurgical stand-point. Concentration has also been treated upon by Mr. Kustel, in a tolerably complete work, which affords the only full information on that subject which can be obtained in the English language, though its contents are derived to a considerable extent from the exhaustive German treatises on the subject, principally from Rittinger and Gaetschmau.

Mr. Hofmann is a young graduate of Freiberg, and is conversant with every branch of mining and metallurgy, lacking only the many years of experience which are appropriately furnished by his senior partner. He is at present in Mexico, superintending the erection of chlorination works in the vicinity of Mazatlan.

FACTS FROM THE NEW SAN FRANCISCO DIRECTORY.—The new San Francisco Directory for 1868, compiled and published by Henry G. Langley, the editor of the "Pacific Coast Business Directory," "State Register," etc., contains the following facts of interest to our readers:

Population.—The total population is 147,950, of which only 138,950 are permanent, the remaining 9,000 being transient boarders, soldiers, sailors, etc. There are 52,300 males over 21 years of age, to 30,000 females over 18. The school census of July, 1868, counts the number of children under 15 at the extraordinary figure of 39,728.

City Improvements.—In its growth, San Francisco has spread during the past year in every practicable direction, the greatest expansion being necessarily towards the south and west. Many valuable improvements have, however, been made, meantime, along the city front, both on the north and east. The final adjustment of the question of title to the city's outside lands has given a fresh impulse to house-building in a westerly direction—while the more favorable conditions that exist for the establishment of manufacturing, mechanical, and other active pursuits, in the southerly part of the town, have led to the inauguration of many new industries in that quarter. Nearly every suburban town and hamlet, and even villages lying more remote, vitalized by her progress, have participated in this growth of the metropolis.

Grading was done by the city costing $468,735; paving, $172,088; planking, $237,482; brick sewer building, $237,798, etc., to a total of $1,511,486.66. The noteworthy new buildings are the new Merchants' Exchange, Mercantile Library, Hayward's insurance building, Y. M. Christian Association building, the new California Theater, the Alhambra and Bella Union theatres, new Chinese Theater on Jackson street, Platt & Brooks' Hall, Mozart Hall on Post street, Red Men's Hall on Bush street, and a great number of fine business establishments, churches, etc. Besides which there must be mentioned the California Market extension, the Mechanics' Institute Pavilion, the Pacific Rolling Mills at Potrero Point, the Selby Lead Smelting Works at Black Point, California Dry Dock at Hunter's Point, a Floating Dry Dock at North Point, etc. The number of new buildings is estimated at 975, of which 240 were brick. Total number of houses in the city 18,009, of which 13,912 are wood and 4,097 are brick.

Manufactures—During the past year, the manufacturing interests of San Francisco as a rule have been developing in magnitude more than increasing in number. The results, in the aggregate, have been very satisfactory to parties pecuniarily interested in these enterprises, while at the same time the public have not only been benefited by the larger volume of manufactures, steady prices, and the retention of coin for other purposes in this city, but a much larger field for labor has been opened up, the result of which is a healthy increase of a stable and valuable population.

Interesting facts are given concerning real estate, the extension of railroads, doings of homestead associations, etc. The Business Directory contains the names of nearly 18,000 firms, arranged and classified.

The Directory, as a whole, is one of the most complete editions ever published by Mr. Langley, and is worthy of our great and growing city. The facts and figures have been collected and collated by reliable statisticians and canvassers, under the personal supervision of Mr. Langley, whose large experience in this particular branch qualifies him for the work which he has just completed. It was printed by Bacon & Company, and is a credit to that well known printing establishment. Price, $5 in gold.

ENTOMOLOGY.—We have received Part III of *A Guide to the Study of Insects, and a Treatise on those Injurious and Beneficial to Crops*—by A. S. Packard, Jr., M.D., Salem, Mass. The work appears in monthly parts. It is beautifully printed, on the finest of paper, and is profusely illustrated with finished cuts. It is issued from the press of the Essex Institute. All those who have seen the articles in the *American Naturalist*, by Dr. Packard, upon subjects connected with his specialty, will know that such a work as this must be a most valuable one. The farmer, the horticulturist, the florist, and the housewife, all need such a manual. To each of these it is a matter of dollars and cents to become acquainted with the features, the habits, and the history of those insects which they must make war upon, and those whose acquaintance they must cultivate. To the student of entomology, also,—who, although he may have no crops to lose, takes up the subject solely for his own amusement,—it will be a welcome book. None know, by the way, the delight of such studies, but those who have tried it. These endure, with the utmost equanimity, the ridicule of those who laugh at them as "bug-hunters;" and as, microscope in hand, they sally forth into the rich world of delight which lies before, around, above and below them, they on their part can afford to indulge in a quiet smile of pity at the fools who are dying of *ennui* in the midst of such abundant resources for amusement.

The first number was issued in July. The whole will consist of eight or ten parts, at fifty cents each. Remittances and orders may be sent to the author at Salem.

MINING IN THE STOCK BOARDS.—There is no doubt that mining is now nearly brought to a legitimate basis in our midst, and nothing but the engrossing attention and promised rewards of other branches for the investment of capital, can delay mining stocks from taking their true relative dividend-returning position in the stock board. Out of one hundred and thirty mining enterprises represented in the Melbourne Stock Exchange, there are sixty-eight dividend paying quartz mining companies, and 31 dividend-paying alluvial mining companies; leaving twelve of the former and the residue of the latter and others, not paying dividends. Thus there is found in Australia a ready sale for the bonds of mining companies that desire to expend the sums borrowed in improving the mine by extended workings, and whose property is good security.

It is suggested by a city paper noted for its attention to mining matters—the *Alta*—that a reliable list be made of such of our leading gold mines as together will produce a steady flow of $25,000,000 a year, as a first step to the improvement of the condition of mining stocks in our stock board, and to the re-inauguration of a degree of activity in the formation of stock companies for legitimate mining.

SULPHURETS and rich Rebellions Ores are wanted in this city, by ROBT. TAYLOR & CO. See advertisement in another column. 17v17tf

NOTICE.—Persons interested in locating Mineral Lands in California or Nevada, will do well to observe the advertisement of N. Wescoatt, S. & M. E., in another column.

CO-OPERATIVE UNION STORE.—This is becoming one of the most useful institutions in the city, and the Mechanic and Laboring Man fully appreciate it. They are now enabled to buy their Groceries and Provisions 20 per cent. cheaper than ever before, and the very best articles in the market. The store is located at 115 Sutter street, Lick House Block, San Francisco. 6v16-a1m

POSTMASTERS are requested to punctually inform us of the removal of subscribers of the PRESS from their locality, or of neglect to take the paper out of the office from any cause—when the subscriber omits that duty himself. It is not our intention to send this journal to any party longer than it is desired. If we inadvertently do so, subscribers and others will please inform us.

Builders' Insurance Company—OFFICE IN THE BUILDING OF THE CALIFORNIA SAVINGS BANK, California street, one door from Sansome street.
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Enterprises and Developments.

The lumber trade on Puget Sound maintains an unprecedented activity.

The Oakland planing mills commenced ruuning last week.

The steam-plow Mayflower is at work at Pacheco.

A coal mine has been worked at Chilliat, Alaska, to the extent of taking out sixty tons of coal. It is said silver lode has been struck on Wrangel Island.

Oakland Cotton Mills.—Work has been resumed at the Oakland cotton mills. The earthquake cracked the chimney and threw down part of the walls.

Cotton or woolen covered with oil which oxidizes rapidly when distributed thinly over a great exteut of surface, has often been the source of disastrous conflagrations.

Several flowing oil wells have been struck one league from the coast, in the State of Oaxaca, near Port Angel, Mexico. This strike has created quite an excitement in that part of the country.

John Wilson, of Salt Creek, Siskiyou County, last week returned from a hunting tour in the mountains of Klamath, Trinity and Humboldt, bringing with him fifty odd deerskins and six bearskins.

A company has been reclaiming Sherman Island, at the confluence of the Sacramento and San Joaquin rivers, containing about 13,000 acres. The company levied a tax upon the whole land of over four dollars an acre to meet the cost of reclamation. Two hundred Chinamen are at work, forming a broad embankment around the island, with a capacious drain ditch inside. Floodgates are being provided to relieve the ditches of water at low tide.

Coal Mining by Machinery.—At a recent meeting of the Institution of Mechanical Engineers, Leeds, a paper was read by John Fernie in which the objects to be gained by the application of machinery to coal cutting were stated to be: 1st, the cheapening of the work; 2d, the saving of a large quantity of coal, which, in the ordinary process of hoisting or undergoing by hand labor with the pick, is broken up into slack and dust; 3d, the removal of the danger attendant upon undergoing by hand labor; 4th, the getting a larger quantity of coal out of the pit; 5th, in the case of machines worked by compressed air, the collateral advantage of better ventilation and a cooler atmosphere in the mine, owing to the discharge of compressed air after each stroke of the tool. The machine traverses along the working face of the coal, and cuts out a horizontal slot or groove along the bottom of the seam of coal, or along a parting in the thickness of the seam itself. The work is at the rate of 8 yards to 12 yards per hour, including all stoppages, and undergoing the coal to the average depth of about 3 feet 4 inches in from the face. The work by each collier by manual labor is about 6 yards per day of 8 hours, undergoing to a depth of 3 feet in from the face. The machine, therefore, performs the work of from 12 to 18 men.

At Pittsburg, Pa., there is in operation a machine of this kind, which goes either by steam or man power.

To Preserve Shingles and Fence Posts. In a paper recently read before the Farmers' Club of the American Institute, J. B. Lyman says: "In using many kinds of wood, and especially chestnut and sappy pine, for shingles, pickets, trellises, etc., much durability will be gained by boiling in lime-water, or a weak solution of carbonate of soda. The boiling coagulates the most perishable parts, and the alkali corrects the acid of the sap, and prevents the growth of fungus. Whitewash is to be recommended as a valuable preservative of wood for a similar reason. Fence posts should be well seasoned and then treated by boiling the end to be set in the ground in tar or resin. For a foot each way from the surface of the earth, when set, fence posts should be well coated with a paint that will exclude water. Setting posts top end down does increase their durability. Painting green wood is worse than useless. It promotes decay by shutting out the air which would stiffen the albumen beneath the surface."

Dynamite.—The Prussian Government have just concluded an extensive series of experiments with dyuamite, and next month the French Government will follow suit. The verdict given by the Prussian Military Commission regarding dynamite is, that it is at least equal in power to ten times its weight in guupowder, and that it is the safest blasting agent known.

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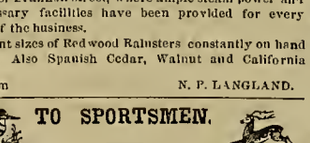
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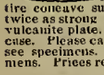
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In addition to American patents we secure, with the assistance of co-operative agents, claims in all foreign countries which grant patents, including Great Britain, France, Belgium, the Netherlands, Prussia, Austria, Russia, Spain, British India, Saxony, Hanover, Sardinia, Norway, Sweden, Australia, Mexico, Victoria, V. I.

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Steps Necessary to Procure a Patent.

The FIRST thing required is a model, if your invention can be represented by one. It is not only immediately necessary in preparing the papers, but the law demands that the inventor shall, in all cases, furnish a model, which must not exceed twelve inches in any of its dimensions. A model of less size will answer when more convenient. It should be neatly made, and of hard wood or metal, or both, varnished or painted; the name of the inventor should be engraved or painted on it in a permanent manner.

When the invention consists of an improvement on some known machine, a full working model of the whole will not be necessary. It should be sufficiently perfect, however, to show, with clearness, the nature and operation of the invention.

As soon as the model is ready, it should be carefully boxed and shipped by express, or otherwise, to our address, namely: DEWEY & CO., *Mining and Scientific Press, San Francisco.* Prepay expenses and send express receipt to us by mail.

A full description must also be sent with the model, embodying all the ideas of the inventor respecting the improvement.

Simultaneously with the model, the inventor should send us the first instalment of the Government fee, fifteen dollars. The money may be forwarded either by express with the model, or by mail. The safest way to remit is by draft on San Francisco, payable to our order. Always send a letter with the model, and also the remittance, stating the name and address of the sender. On receipt of the model and Government first fee of $15 in currency, the case is duly registered on our books, and the application proceeded with as fast as possible. When the documents are ready we send them to the inventor by mail, for his examination, signature and affidavit, with a letter of instruction, etc. Our fee for preparing the case is then due and will be called for. The case will then be presented to the Patent Office, and as soon as the patent is ordered to be issued the Government last fee of $20 in currency will be required. The law states that every patent shall be dated as of a day not later than six months after the time at which it was passed and allowed, and notice thereof sent to the applicant or his agent. And if the final fee for such patent be not paid within the said six months, the patent shall be withheld, and the invention therein described shall become public property as against the applicant therefor.

Inventors who do business with us will be notified of the state of their application in the Patent Office, when it is possible for us to do so. We do not require the personal attendance of the inventor, unless it is one of great complication, as the business can be well done by correspondence.

When the invention consists of a new article of manufacture, a medicine, or a new composition, samples of the separate ingredients, sufficient to make the experiment, and also of the manufactured article itself must be furnished, with full description of the entire preparation.

The average time required to procure a patent, when the case is conducted at our agency, is ten weeks. We frequently get them through in less time; but in other cases, owing to delay on the part of Government officials, the period is sometimes extended to four or five months, and even more. We make a special point to advance our cases as rapidly as possible.

Candid Reasoning.

A gentleman eminent for his ability in all points pertaining to specifications, gives inventors the following sound advice:

To properly prepare a specification may seem a very simple and easy task, but such is not the case. It requires a knowledge of the arts, of science and scientific terms, and their proper use—of mechanics and the principles that govern their action—of law, and of the grammatical and legal force and construction of language, which is possessed by but very few persons.

Lawyers seldom possess the mechanical knowledge, while mechanics still more generally lack the legal knowledge necessary to enable them to properly prepare a case for examination.

It requires such a *combination* of legal and mechanical knowledge, together with a special knowledge of the principles and rules that govern the action of the office, that no person is really competent to undertake the business but those who *have made it a study, or had experience at it.* In view of these facts I unhesitatingly advise every person who has an invention worth patenting to get some responsible and competent agent to attend to it for him.

No person scarcely would think of entering upon a suit at law without employing a lawyer to attend to it, and make out his papers for him; and if a sensible man would not do that, much less would he attempt to prepare an application for a patent without knowing anything about the business.

I am aware that persons frequently attempt it, but I am also aware that *many lose their patent simply in consequence of not having their case properly prepared, or not knowing how to amend it so as to avoid the references given when once rejected.*

Besides this, many times when they succeed in obtaining the patent, they find afterwards that it will not stand in law, or does not cover their invention, and is therefore useless. It is for this reason that many applicants are compelled to reissue their patents at as great, and often greater expense, than the obtaining of the original.

Hence I repeat, every person having an invention worth patenting should employ a competent and responsible agent—I say *competent and responsible*, for, unfortunately, there are many who are neither competent nor responsible.

If worth filing at all, these cases should be prepared with very great care and caution.

One intentor on this Coast, who had filed a caveat by an attorney, was, sometime afterward, surprised to find that his invention, which was a very important one, had been patented and was being brought out by an eastern company with a capital of more than a million of dollars. Upon inquiring at the Patent Office, he was informed that his caveat was inoperative by reason of imperfections and his not having complied with the law in that case as made and provided.

Inventors will oftimes find it very important to take advantage of the caveat system—the expense under the law being comparatively small.

To enable us to prepare caveat papers, we only require a sketch and description of the invention; no model being necessary.

If an inventor publicly uses and sells his invention, prior to making application for a patent, he cannot, afterward, prevent others from doing the same thing; and should any party put the invention into use, before such application for a patent is made, they could continue to use the specific machine or composition of matter after the patent is issued to another. Filing a caveat does not give the right to affix the words, "Patented, or "Patent applied for."

Self-Evident Facts.

Having had large experience, and gratifying success with the great variety of cases emanating on this coast, we feel confident of our abilities to assist inventors in patenting their inventions, saving them from vexations delays, and from receiving worthless papers by reason of imperfect preparation of their claims before being sent to the Patent Office.

The branch of Patent Law is of itself a SPECIALITY of legal jurisprudence; or, as Mr. Phillips, an eminent patent lawyer, justly remarked: "The metaphysics of the law."

In early days but little preparation was needed, or but ordinary skill required to obtain a patent; but now, by reason of the multiplicity of inventions, and the numerous Acts of Congress, found necessary to protect the inventor while the patent lasts, and to do justice to the people after it expires, the utmost care and skill are requisite in managing cases and obtaining a patent that will be of real value to the Patentee, and stand the test of passing through the legal ordeal of an infringement suit.

The general practice of the Patent Office regarding the examination or issue of Letters Patent for inventions has not been materially changed for many years, yet there have been amendments added to the laws of 1861, 1863, and 1866, and which it is necessary for all parties managing an application to be conversant with. Old inventors invariably advise the employment of none but agents of *responsibility* and *experience.* As agents with such qualifications, we solicit honest patronage.

Re-Issues.

When, through "inadvertence, accident, or mistake," an *insufficient* or *defective* patent has been issued, the defects in the Specification and Claims can be cured by a *re-issue.* In order to obtain this, the inventor, or the holders of the patent, must surrender the patent, and file an amended specification and drawings, and a statement specifying the ground lor asking for a re-issue. Re-issues are generally applied for after it has been found that the patent could not withstand litigation. It is, therefore, especially desirable that the new Specification and Claims should be prepared with great care and skill. Terms liberal in these cases.

Dangers of Delay.

Situated so remote from the seat of Government, delays are even more dangerous to the inventors of the Pacific coast than to applicants in the Eastern States. Valuable patents may be lost by the extra time consumed in transmitting specifications from Eastern agencies back to this coast for the signature of the inventor, or by reason of return for amendment when addressed directly by the inventor to the Government.

Illustrate your Innentiovs.

Too many ingenious inventors lose the value of their genius and labor by not bringing their improvements conspicuously or plainly enough before the public—the general reading public.

One of the best means—and the cheapest, too—for eliciting attention to a new invention, is that of illustrating and describing it in the columns of the MINING AND SCIENTIFIC PRESS. To do this in the case of a meritorious improvement (and none other will be accepted), will cost our patrons no more than the price of a first-class engraving.

With a cheap representation we will have nothing to do, as it would be calculated to injure both the inventor and ourselves.

We also take especial pains in furnishing engravings and electrotypes of superior merit, of all kinds, at fair rates, and tender our patrons the benefit of our practice and experience, by advice and assistance, in getting up their circulars, advertisements, etc.

To Eastern Inventors.

Our close proximity to Mexico, Australia and the Islands enables us to obtain Letters Patent for you with much less *delay* and expense than they can be secured through any other agency in the United States.

Comparatively few inventors seem to be aware that Melbourne, in Australia, is a city nearly double in size to San Francisco, besides the adjacent colonies of great commercial and mineral importance. Inventions of all kinds, but especially those relating to the saving of gold and silver, if secured in Australia, will often prove of great value. We have competent agents there, and can promise that the business will be attended to with fidelity and dispatch.

DEWEY & CO.,

Patent Solicitors, Mining and Scientific Press Office,
414 Clay Street, below Sansome, San Francisco.

SEPTEMBER, 1868.

REMOVAL.

THE

MINING AND SCIENTIFIC PRESS

(Patent Agency, Newspaper and Job Printing Office)

Will be REMOVED this day from No. 505 Clay street to

No. 414 Clay Street, below Sansome,

About one-half block east of our former location.

August 5th, 1868. **DEWEY & CO.**

ATTENTION.—Virginia City, Aug. 9th, 1868—Dewey & Co., San Francisco.—Gents:

The Patent, enclosing your favor with Inventor's certificate, etc., came duly to hand, and for which please accept my grateful acknowledgements.

I am pleased to learn that the business of your agency for Patents, etc., is rapidly increasing. This is as it should be. Your promptness, fidelity and skill, as Patent Agents, entitle you to public confidence and patronage.

I can see no good reason why Inventors on the Pacific Coast should employ agents in New York and other Eastern cities to transact their business at the Patent Office, when we have among us those equally qualified by long study and large experience.

Yours truly, J. A. C.

New Mining Advertisements.

Chihuahua Mining Company—District of Ures, Sonora, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixth day of November, 1868, an assessment of two dollars and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, No. 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eleventh day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-eighth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary.

Office, 318 California street, up-stairs, San Francisco. n7

Senator Silver Mining Company.—Location of Mine: Storey County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second day of November, 1868, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, 408 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the fourth day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the twenty-fourth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINGARD, Secretary.

Office, 408 California street, San Francisco. oc7

Mining Notices—Continued.

Cordillera Silver Mining Company, Morello District, Chihuahua, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixteenth day of October, 1868, an assessment of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at his office, 321 Washington street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eighteenth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the seventh day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

HENRY R. REED, Secretary.

Office, 321 Washington street, San Francisco. oc17

Diamond Copper Mining Company. Location: Rockland District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty eighth day of October, 1868, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 40 Merchants' Exchange Building, California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the tenth (10th) day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty eighth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. A. COOLIDGE, Secretary.

Office, Room No. 40 Merchants' Exchange Building, California street, San Francisco. oc3t

Fogus Mill and Mining Company.—Location of Works: Amador County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-third day of October, 1868, an assessment of two dollars and fifty cents ($2.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at his office in San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-fourth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the twelfth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN J. SCOTCHLER, Secretary.

Office, No. 318 Front street, San Francisco, Cal. oc3i

Great Central Mining Company.—Location of Works: Yuma County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the ninth day of October, 1868, an assessment of two and one-half dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company.

Any stock upon which said assessment shall remain unpaid on the eleventh day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the thirtieth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

O. D. SQUIRE, Secretary.

Office, No. 414 Montgomery street, San Francisco. oc17

Gold Hill Tunneling Gold and Silver Mining Company.—Location: Gold Hill Mining District, County of Storey, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the ninth day of October, 1868, an assessment (No. 11) of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, R. Wegener, 414 California street, San Francisco, Cal., or to the Superintendent, H. Huguet, Gold Hill, Nevada.

Any stock upon which said assessment shall remain unpaid on the eighteenth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the ninth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. WEGENER, Secretary.

Office, 414 California street, San Francisco oc17

Glenwood Mill and Mining Company, Green-wood, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the tenth day of October, 1868, an assessment of fifty dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 414 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twentieth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the ninth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

WILLIAM VALE, Secretary.

Office, 414 California street, San Francisco. oc17

Hope Gravel Mining Company. Location of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifth day of October, 1868, an assessment (No 25) of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 25 Merchants' Exchange, California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on Tuesday, the tenth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirtieth day of November, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary.

Office, No. 25 Merchants' Exchange, south side of California street, between Montgomery and Sansome streets, San Francisco, California. oc10

Kearsarge Mining Company, Kearsarge Dis-trict, Inyo County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the eighteenth day of September, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificates.	No. Shares.	Amount.
Alberding, F H	44, 45, 46, 47	79	$79 00
Bliss, D L	18	200	200 00
Gillig, Mott & Co	14	75	75 00
Grim, A K	38	206	206 00
Gray, T C	50	20	20 00
Gillig, Mott & Co	not issued	100	100 00
Gillig, John	not issued	85	85 00
Hastings, O L	36	100	100 00
Leet, W N	17	215	215 00
Mor an, J	not issued	309	3 9 00
Sunderland, Thos	3	285	285 00
Van Gorder, C H	16	559	559 00
Winters, John B	15	559	559 00

And in accordance with law, and an order of the Board of Trustees, made on the eighteenth day of September, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, Cal., on the tenth day of November, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office, 408 California street, San Francisco. oc24

ASSESSMENT NOTICE.

Notice is hereby given, that an assessment of one dollar per share on the stock of the NEVADA COUNTY GOLD MINING COMPANY is due, and payable at the office of the Company, No. 9 Merchants' Exchange, San Francisco, within thirty days from date. Any of the above stock upon which said assessment shall remain unpaid on Saturday, the 19th day of December, 1868, will be sold at public auction, at the office of the Company, as above, at 12 o'clock, noon, in accordance with law and per order of the Board of Trustees.

W. AUG. KNAPP, Secretary.

San Francisco, Oct. 19th, 1868. oc24

Rippon Gold and Silver Mining Company.— Location of Works: Silver Mountain District, Alpina County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifteenth day of October, 1868, an assessment of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 87 Stevenson street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the nineteenth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the eighth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order a the Board of Trustees.

P. CARROLL, Secretary.

Office, No. 87 Stevenson street, between First and Second streets, San Francisco. oc24

Rattlesnake Gold and Silver Mining Compa-ny, Brown's Valley, Yuba County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirteenth day of October, 1868, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eighteenth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the seventh day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary.

Office, 318 California street, San Francisco, Cal. oc17

Washington Mining Company.—Location of Works: Nevada County, California.

The regular Annual Meeting of this Company, will be held on SATURDAY, the SEVENTH DAY OF NOVEMBER, 1868, at one o'clock P. M., at the office of the Company, No. 318 Front street, San Francisco.

JOHN J. SCOTCHLER, Secretary.

San Francisco, Oct. 10, 1868. oc10

Machinery.

VARNEY'S
PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

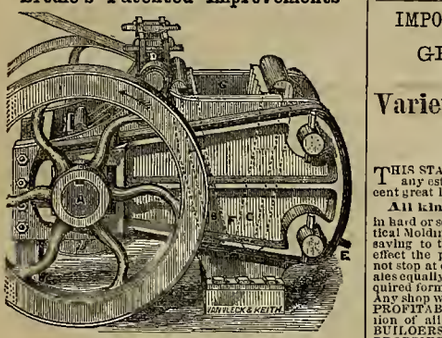
The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setlers for themselves, at the **PACIFIC FOUNDRY,**

1vl San Francisco.

Brodie's Patented Improvements



FOR THE TREATMENT OF

Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:

No. 1—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price.....$600

No. 2—Or 15 inch Crusher, capable of similarly putting through five to six tons per hour..... 850

No. 3—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour..... 1,200

These Crushers have been erected at several mines in the State of Nevada, and others in Calaveras, Tuolumne and Mariposa counties, to whom applicants can be referred as being the most efficient, cheapest, and least weight compatible with strength and durability, of any Crusher yet erected.

BROOIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BROOIE'S PATENT WIND-BLAST SEPARATOR FOR ORY CRUSHING.—Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.

JAMES BRODIE, Fulton Foundry, or
CHARLES RAOCLIFF,
Express Building, 402 Montgomery street,
12v13tf San Francisco.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

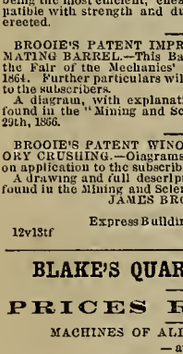
MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077

3v13f SAN FRANCISCO.



REMOVAL.

E. O. HUNT'S

Manufactory of

Windmills, Horse-Powers and Pumps,

Has been removed from the old stand on Second street, to

114 and 116 Spear st.,

Next above Stuart and south of Mission st, San Francisco.

Hunt's Patent Wind-Mills, Tread Horse-Powers, Sweep Horse-Powers, (for one or four horses), Sawing Machines, Pumps of all kinds for shallow or deep wells,—including Hunt's Submerged Pump, Hunt's Globe Pump, and Hunt's Single and Double-Acting Pump. Pumping Machines and general Machinery kept constantly on hand and built to order.

Also, Water Tanks of all sizes.

Having put up large new buildings specially for my business, with greatly increased facilities in the way of room and steam power, I shall be able to build everything in my line at greatly reduced rates.

All desirous of procuring water for irrigating or other purposes, are invited to examine my articles before purchasing elsewhere.

2v16 **E. O. HUNT, Proprietor.**

GLASGOW
Iron and Metal Importing Company

Nos. 25 and 27 Fremont street,

SAN FRANCISCO,

Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Bucket Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings, which they offer to the trade on liberal terms.

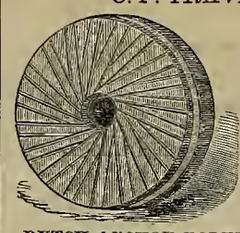
21v16-3m W. McCRINDLE, Manage.

Fire, Hose and Machine Belting.

THE SUBSCRIBER CONTINUES TO MANUFACTURE Oak Tanned Leather Fire Hose, warranted superior to Eastern Hose, manufactured at the Sixth Street Tannery, San Francisco.

21v16tf, JOHN J. FULTON.

C. F. TRAVIS,



Manufacturer of

FRENCH

BURR

Mill-Stones,

AND

PORTABLE

MILLS.

Agent for

Dufour & Co's

Celebrated

DUTCH ANCHOR BOLTING CLOTHS.

Mill Picks, Mill Picks Oressed, Mill-Stones Repaired and Rebuilt; Mill-Stones Balanced with Fellenbaum's Patent Balance, of which I am sole Proprietor for California, Oregon, and Washington Territory. C. F. TRAVIS.

5v16tf 109 Mission street, San Francisco.

Belting and Lacing.

AN ENTIRELY NEW AND SUPERIOR ARTICLE OF exclusively mechanical preparation, made to order on short notice, and for sale by H. ROYER, at 435 Brannan street, between Third and Fourth. Refers to Risdon Bros., Pioneer Mills; Martin Soren, National Mills; Horace Davis, Golden Gate Mills; also, N. W. Spaulding, Saw Manufacturer. 6v16-3m

IMPORTANT TO WOOD WORKERS.

GEAR'S COMBINATION
PATENT
Variety Molding and Planing
MACHINE.

THIS STANDARD MACHINE IS INDISPENSABLE IN any establishment working Wood by machinery. Recent great improvements render it complete for

All kinds of Irregular and Straight Work

in hard or soft wood, Straight, Waved, Circular and Elliptical Moldings, Spiral Work, and all Irregular Forms, thus saving to the mechanic the cost of several machines to effect the purposes accomplished by this alone. It does not stop at cutting the edges and sides of timber, but operates equally well upon the end-, cutting them into any required form with the same facility that it does the sides. Any shop without it lacks one of the most USEFUL AND PROFITABLE TOOLS now used. It is worthy of the attention of all HOUSE, CARRIAGE, SHIP, BOAT and CAR BUILDERS, FURNITURE and CABINET MAKERS, MILL PROPRIETORS, PATTERN MAKERS, etc., and of all others who desire to make a profitable business from a small investment. Every machine is thoroughly tested at the manufactory and warranted. Further information furnished on application. FULLER & CO.,

Manufacturers' Agents for the Pacific Coast, 109 Montgomery street, San Francisco. 17v17-3m

PACIFIC FILE WORKS,

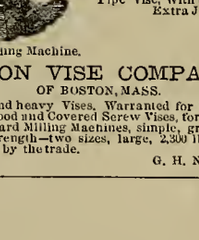
No. 53 Beale Street, bet. Market and Mission,

SAN FRANCISCO.

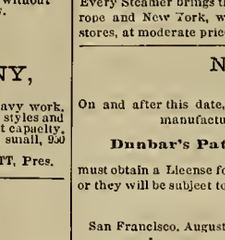


Files Re-cut and warranted as good as new, with a saving of fifty per cent. REAPER AND MOWER SECTIONS MADE TO ORDER. The only establishment on the Coast. Orders from the country promptly attended to. First Premium awarded at the State Fair, 1867.

2v17-3m **T. G. DURNING & CO**



Standard Mining Machine.



Pipe Vise, with or without Extra Jaw.

UNION VISE COMPANY,
OF BOSTON, MASS.

Extra jaw, and heavy Vises. Warranted for heavy work. New style Wood and Covered Screw Vises, forty styles and kinds; Standard Milling Machines, simple, great capacity, power and strength—two sizes, large, 2,300 lbs; small, 950 lbs. For sale by the trade.

23v16-1y G. H. NOTT, Pres.

FOR SALE,
BY STANFORD BROS.,

DEVOE'S COAL OIL, PARAFINE OIL, MACHINE OIL, Lard Oil, China Oil, Neats Foot Oil, Sperm Oil, Boiled Linseed Oil, Alcohol, Polar Oil, Tanner's Oil, Elephant Oil, Binnacle Oil, Turpentine, Oil Soap, Crude Petroleum, Lamp Stock of all kinds, GASOLINE, Gravity St., NAPTHA, Gravity 65 and 71. Also, GRANT'S CANDLES, in lots to suit.

10v17-3m

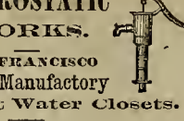
IMPORTANT TO LUMBERMEN.

ANDERSON'S
Patent Mulay Saw Hangings.

These Mulays will cut FIFTY PER CENT. MORE LUMBER PER DAY than any other Mulay in use, with fifty per cent. less power. They are very durable, and easily kept in order, and warranted to give satisfaction. No Mulay Mill should be without them, as they will pay for themselves in a very short time. No other mode of manufacturing Lumber can compete with the Mulay Saw with this improvement. Send for circular. FULLER & CO.,

Manufacturers' Agents for the Pacific Coast, 109 Montgomery street, San Francisco. 17v17-3m

HYDROSTATIC WORKS.



SAN FRANCISCO

Pump Manufactory

And Patent Water Closets.

M. D. LASSWELL,

No. 747 Mission Street, bet. Third and Fourth.

House Plumbing and Gas Fitting in all of its modes. Lead, Iron and Copper Piping fitted for water, steam and gas. Ship Plumbing, and Ship Pumps made and repaired. Hose of all sizes, Couplings and Nozzles, Hoses and Hose Stands, and all kinds of Brass Cocks. Force, Lift and Suction Pumps of all sizes made and set to order.

I am now prepared to make all kinds of Pumps for miners and for irrigating in a large way. I am making four sizes of single acting Brass Pumps, similar to the Haden & Sanders Brass Pumps. I am also making a very superior Pump to any in this market for windmills, single-acting. I am making four different kinds of double acting Force Pumps, and different sizes of each kind. I am also making Artesian Well Pumps of a superior kind. This Pump may be lowered in any well to any depth desired. It is a force pump, or it is a suction pump, or it is a lift pump, and may be worked by hand or windmill, or any kind of power. Can be used for oil wells better than any other, and the Pump is the most durable and easiest repaired of any Pump in the country.

I have invented and am making a superior double-acting Force Pump, called the GOLDEN STATE, which has great advantages over any Pump in this State. It is the easiest Pump repaired, and is the most durable of any Pump in the pump kingdom.

☞This Pump received the **Silver Medal** and highest premium at the Mechanics' Fair; also the highest premium at the late State Fair. At the San Jose Fair my Hydraulic Force Pump received the First Premium, and four other Pumps each a diploma.

Any one in want of a Pump or anything in my line, will do well by calling at my place before purchasing elsewhere.

☞I also keep all kinds of COUGLASS and other makers' Pumps on hand. 11v17-tf

Removal.

NELSON & DOBLE,

AGENTS FOR

Thomas Firth & Sons' Cast Steel, Files,

Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks,

Stone Cutters', Blacksmiths' and Horse-Shoers' Tools,

Have removed to **13 and 15 Fremont street,** near Market, San Francisco.

10v14qr

Notice to Miners,
Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG,

8v13-1y Stove Store, No. 125 Clay street, below Davis.

MEUSSDORFFER,

HAT MANUFACTURER

And dealer in

Hats and Caps

AT WHOLESALE AND RETAIL.

635 and 637 Commercial street.....San Francisco.
125 J street.....Sacramento.
Corner of B and Second streets.....Marysville.
72 Front street.....Portland, Oregon.

Our wholesale House, 638 Commercial street, extending through to 637 Clay street, San Francisco, contains always a most choice, and the largest, assortment in this State. Every Steamer brings the latest issued novelties from Europe and New York, which can be found at all the above stores, at moderate prices. 23v16-3m

NOTICE.

On and after this date, all parties on the Pacific coast manufacturing, using, or selling

Dunbar's Patent Piston Packing,

must obtain a License for the same from the undersigned, or they will be subject to the penalties of the law.

H. S. SMITH,
Ætna Iron Works.
San Francisco, August 15th, 1868. 7v17-3m

HO TEAMSTERS!

CONTINUE TO

USE HUCKS & LAMBERT'S

CELEBRATED

H & L Axle Grease,

To which you have given so decided a preference for the last

FOURTEEN YEARS,

It is the only reliable article

IN THE MARKET

Every care will continue to be used to sustain the high reputation the H & L Axle Grease, has so long and justly attained.

☞Be sure and ask for the H & L brand, and see that the

TRADE MARK H & L

IS ON THE COVER OF THE PACKAGE

NONE OTHER IS GENUINE.

FOR SALE IN EVERY STATE IN THE UNION.

PATENT OFFICE REPORTS, from 1843 to 1847, MECHANICAL are wanted for duplicate copies at this office. Parties having them for sale will please state price, and address OSWEX & CO., Mining and Scientific Press office, San Francisco.

BY MAIL.—The *Mining and Scientific Press* will be sent by mail to any part of the civilized world. In case of removal subscribers have only to inform us of the post office address of the old and new location, and the paper will be sent accordingly.

NEW ZEALAND GOLD FIELDS.—The London *Mining Journal* has a letter from the new gold region, a portion of which we quote: The gold fields extend from Cape Colville, through Coromandel, the true El Dorado, 20 miles inland. Nearly the whole of this territory belongs to the natives, who have leased a portion of it to our local government. There is no approaching it except seaways, the jealously of the natives making it too dangerous for visitors to avail themselves of the shorter land route. Every miner pays 20s. for his license, 15s. of which is handed over to the proprietors of the soil. Upwards of 6,500 of these licenses have already been granted, and it is believed the number will exceed 30,000 before the close of the summer. For the above fee of 20s. the digger is put into possession of a strip of land 150 feet in length by 50 in width. This is called the "claim." But the usual practice is for three or more to associate, and secure between them a larger extent of ground, each paying, of course, for a separate license to work. In one of the earliest claims thus obtained, belonging to three individuals, a fourth share was almost immediately disposed of for 2,250*l.*, and 25,000*l.* more was afterwards offered, and refused, for the whole lot. Limited as its area is, nobody doubts that it contains metal to the value of 1,000,000*l.* sterling. The four lucky fellows are laboring upon it themselves. No other claim approaches this in value, yet there are many yielding to their owners 200*l.* and 250*l.* per week. The quartz throughout the district certainly averages 12 ozs. of gold to the ton. Prospecting parties are at liberty to select for themselves within the proclaimed area any unoccupied spots. All that they then have to do is to pay off so many claims, according to their numbers. These companies are generally limited, too; in no case, at all events, do they exceed 20 members. After receiving his license the adventurer must be daily on the ground and at work, or provide a substitute, otherwise his claim may be "jumped"—that is, forfeited to the first comer, he being himself a licensed miner, who discovers it "idle."

GOVERNMENT AND THE FORESTS.—In France and Germany forestry is one of the state professions of the highest character, and regularly filled from the better and educated class who are trained for that purpose. France has 2,700,000 acres of state forest, revenue £1,740,000, in the conservation and management of which £500,000 is annually expended. Prussia has 5,070,000 acres, Bavaria 1,962,000 acres, while the forest area of Austria is 13,000,000 acres, with an export value of £3,000,000 sterling annually realized. Systematic conservation in Europe has restored forests to an area of correct proportion to the cultivation of the country, and secured a supply for profitable exports.

England has taken steps to save the teak and sal forests of India by putting them in charge of a special department of the government. There were in 1830 probably 4,000 square miles of purely sal forests along the foot of the Himalayas, besides those in Central India available to the government. The sal timber is almost the only one found capable of standing the Indian climate for railway purposes; yet now the East Indian railway has been obliged to import pine sleepers from Norway, sal being scarcely procurable.

On our western half of the American continent forests are the exception instead of the rule as in the East and in Europe. In due time the agricultural societies will undoubtedly take steps to induce the Legislature, or Congress, to do something for the perpetuation of our forests.

GOLD AND SILVER PRODUCT OF THE WORLD.—The *Banker's Magazine* estimates that from 1492 to 1848, the yield of the world in gold and silver, was equal to $8,300,000,000, of which $2,261,000,000 was in gold, and $5,678,000,000 in silver. But the proportion of gold to silver has greatly changed in recent years, so that from 1854 to 1868, of $5,574,000,000 of the precious metals, $3,379,000,000 were gold, and only $2,194,000,000 silver. It is supposed that Europe and America possessed, in 1848, $6,000,000,000 of gold and silver, of which $1,900,000,000 were gold, and $4,100,000,000 silver.

A New Treatise on Concentration of All Kinds of Ores.

INCLUDING THE CHLORINATION PROCESS FOR Gold-Bearing Sulphurets, Arseniurets, and Gold and Silver Ores Generally, by GUIDO KUSTEL, M. E. & M., author of Nevada and California Processes of Silver and Gold Extraction—120 lithographic diagrams.

OPINIONS OF THE PRESS.

KUSTEL'S NEW WORK.—Mr. Guido Kustel has just put forth another volume, a copy of which we have received from the publishers, Dewey & Co., San Francisco. The book contains 120 diagrams on seven plates. In issuing the work, the design of the author appears to have been to exhibit the present state of the art of concentrating ores as practiced in the older and more experienced mining sections of the world, as well as in the more recent mining operations in California. The principles on which the system of concentration is founded are stated without entering into scientific reasons.

The dressing of ores is treated at great length, and the plan is based on these principles: "1st. Each constituent of the mass of ore must be brought to the highest value which can advantageously be given to it. 2d. The useful minerals must be concentrated only to the most advantageous degree of purity; and, 3d. All loss of the quantity and value of the useful mineral must be avoided as far as practicable." Reduction in its diversified modes—by rock-breakers, stamps, rolling mills, and grinding in arastras, pulverizers, Chili mills and pans—necessarily occupies large space by reason of its importance.

The plan of reducing ores by stamps, in either the wet or dry process, forms a complete treatise of itself, and may be studied with advantage by all persons connected with reduction works of that character. Concentration of gold ores is specially treated in section 49, and of silver ores in section 50. The latter subject should possess interest for our millmen and miners, as the plan of concentrating ores is certain to be resorted to as soon as the business is understood and reduced to a system.

The sections of the work devoted to the extraction of gold from sulphurets, arseniurets, or quartz, by chlorination, are based on Plattner's process of the property of chlorine gas to transform metallic gold into soluble chloride of gold. By this process it has been demonstrated that gold is extracted perfectly. Our author says the process was first introduced into Nevada, California, in 1858, where there are several establishments in successful operation.

The process of chlorination is described in the fullest manner, and embraces a particular description of the various roasting furnaces in use, as well as of the operation of roasting.

We commend Mr. Kustel's treatise to the attention of all concerned in the business of mining and reducing ores, to whom it must prove a valuable hand-book of practical knowledge.—*Daily Reese River Reveille, Jan.*, 1868.

Price of the work, $7.50. Published by Dewey & Co., MINING AND SCIENTIFIC PRESS, San Francisco, who will supply orders, by mail or express, at wholesale or retail.

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	Miles.		Miles.
Acapulco, Mex.	1,840	New Orleans, via Panama	5,140
Auburn	152	Oakland	7
Benicia	30	Oroville	196
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Cape Horn	6,380	Pacheco	38
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Folsom	139	San Leandro	15
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Geyser Springs	105	San Rafael	12
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Los Angeles (str.)	480	Sacramento (str.)	121
Liverpool, Eng.	13,10	Salem, Or.	710
Mare Island	28	San Bernardino	504
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Ma Pourne, via H. I.	7,200	Tucson, Arizona	1,015
Marysville	171	Tahiti, S. I.	4,490
Mokelumne Hill	178	Vallejo	23
Mariposa	211	Visalia	308
Napa	50	Victoria, V. I.	753
Nevada City	182	Valparaiso, Chili	5,210
New Almaden	67	Warm Springs	37
New York, via C. Horn	14,000	Weaverville	365
New York, via Panama	5,140	Yreka	400
New York (overland)	3,417	Yosemite Valley	247

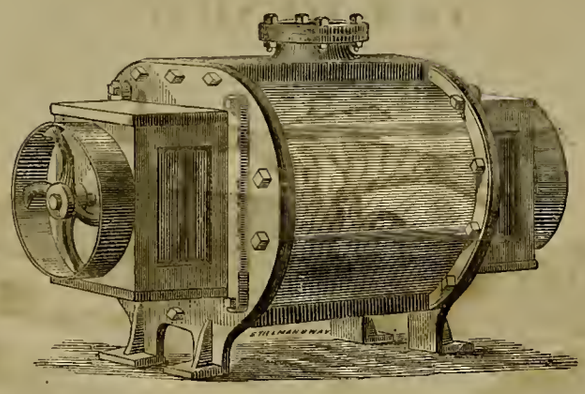
NEW COMPOSING-STICK.—A new invention has been brought out at Cambridge, Mass., a new method of fastening the shoulder or movable corner in composing-sticks. By the simple movement of a cam lever a stick can be almost instantly adjusted to any desired size. The screw head is of course abolished, and the stick made much more agreeable in the hand.

REGISTER YOUR LETTERS containing money addressed to us, or we will not be responsible. Remittances by Express must be in packages, prepaid. When practicable, it is best to remit by draft, or order, on some San Francisco bank or firm

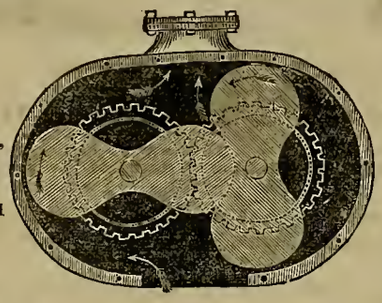
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Patented Nov. 1st, 1864; July 24, 1866; and Oct. 9, 1866.

Awarded the First Premium at the Paris Exposition.



ADAPTED FOR **Smelting, Foundry, Mining and Steamships.**



REQUIRES **Fifty Per Cent.** LESS POWER **Than any Blower** Now in use.

One of these Blowers may be seen on exhibition at W. T. Garratt's Brass Foundry, corner of Mission and Fremont streets. They are also in use at the Almaden Quicksilver Mine; Gridley's Foundry, Gold Hill, Nevada; Ætna Iron Works, San Francisco, and many other places.

CAUTION.—Purchasers will find it to their advantage to apply direct to the Stockton Agency, as certain parties, not authorized to manufacture the Blower, have put in the market machines of inferior construction, which do not answer all the requirements of the genuine article.

For circulars and further information, address:

KEEP & BARGION,
Globe Iron Works, Stockton, Cal.

4v16-3m

HAYWARD & COLEMAN,
IMPORTERS AND REFINERS
—OF—
Illuminating, Lubricating,
—AND—
PAINT OILS,
CONSISTING OF
KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS, NEATSFOOT, BOILED AND RAW LINSEED, CASTOR AND CHINA NUT.
—ALSO—
Spirits of Turpentine and Alcohol.

Lamps and Lamp Stock!
An elegant and complete assortment.

SOLE IMPORTERS OF
Devoe's Illuminating Oil.
PATENT CANS.
414 Front street, San Francisco.
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JOHN PERRY,
MANUFACTURER OF
Cocoanut Matting, Rugs, Mats, Etc.
And Cocoanut Fiber for Upholstery.
South side Chestnut street, bet. Polk and Larkin streets,
SAN FRANCISCO.

BY A PROCESS ENTIRELY NEW, THE PROPRIETOR is now manufacturing in quantity sufficient to supply the demands of the trade, A NEW AND SUPERIOR MATERIAL FROM THE FIBER OF THE COCOANUT—the best substitute for curled hair hitherto discovered—for mattresses, chairs, lounges, and all upholstering purposes. The following are some of the advantages which it possesses over all other materials used for the above named purposes:

1st. It is cheaper, all things considered, than most articles in use.

2d. It is the best and purest material known in the market, being entirely free from all offensive smell.

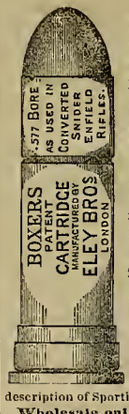
3d. It is the most durable, not being subject to rot after years of exposure to moisture and dampness.

4th. It is remarkable for its elasticity, rivaling, in this respect, the finest curled hair.

5th. It contains nothing to breed vermin or support insect life, being entirely freed in process of preparation from all deleterious vegetable matter.

Lastly. It does not pack; is free from dust; much lighter, and in general obviates all the objections to pulu, prepared shavings, soap root, and other inferior substitutes for feathers and hair. 22v166m

Eley's Ammunition.



These Cartridges are made in three sizes, viz., .577 (or Snider Enfield) bore; .500 (or half-inch) bore; and .451 (or small) bore

These Cartridges have been adopted, after careful comparative trials against all other descriptions, by HER MAJESTY'S WAR DEPARTMENT, as the Standard Rifle Ammunition for the BRITISH ARMY, and are not only used exclusively for the Snider Rifle, but are adapted to all other systems of military BREECH LOADING RIFLES.

They are the cheapest Cartridges known, carrying their own ignition, being made wholly of metal, are water-proof and imperishable in any climate.

Boxer Cartridge Cases (empty), of all 3 sizes, packed with or without bullets, and machine for fastening same in Cartridges.

Makers of BOXER CARTRIDGES, .450 bore for Revolving Pistols, in use in Her Majesty's Navy.

PIN CARTRIDGES for Lefaucheux Revolvers of 12 M, 9 M, and 7 M, bore.

CENTRAL FIRE and PIN FIRE CARTRIDGES, for all sizes of Guns, Rifles and Revolvers.

Double Water-Proof and E. B Caps. Wire Cartridges for killing game at long distances. Felt Waddings to improve the shooting of guns; and every description of Sporting and Military Ammunition.

Wholesale only.

ELEY BROTHERS,
Gray's Inn Road, Loudon, W. C.
18v16eowly

M. M. COOK & SON.



Hose and Belting.

Fire, Hydraulic Hose and Leather Belting, made of the heaviest and best quality of Oak-tanned Slaughter Leather. Also, Fire Buckets, Suction Hose, etc. Our Belting is well stretched, cemented and warranted to run true, and our Hose guaranteed to give satisfaction. A large assortment always on hand and orders promptly filled. No. 801 Battery street, San Francisco 13v16 3meow

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And all other Blanks, Blank Books, etc., required by Mining and other Corporations, kept on hand or printed to order on short notice, at moderate prices, at the office of the *Mining and Scientific Press.*

THE MINING AND SCIENTIFIC PRESS comes to us this week in a new dress throughout, much improving its appearance. The PRESS is one of our most valuable exchanges, and fills a place in mining and scientific matters never attained by any other journal.—*Colorado Miner*

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KUSTEL & HOFMANN,
Metallurgists and Assayers.
Gold and Silver Bullion Assayed.
MINERAL ASSAYS & ANALYSIS MADE.
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SILVER AND GOLD ORES worked in small lots up to hundred pounds, by Chlorination and other methods.
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JOHN TAYLOR & CO.
IMPORTERS,
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ASSAYERS' MATERIALS,
Druggists' & Chemists' Glassware
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512 and 514 Washington Street,
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WE are receiving direct from MESSRS. LADD & OERTLING (London) and BEEKER & SONS (Antwerp, Belgium) their superior
ASSAY AND BULLION BALANCES,
And from France and Germany, as well as the Eastern States, FURNACES, CRUCIBLES, MUFFLES, BLOW-PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, etc. We have given this branch of our business particular attention, to select such articles as are necessary in the development of the mineral wealth of this coast.
A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' SUNDRIES, ACIDS and CHEMICALS, constantly on hand.
San Francisco March 6, 1865 11v10-tf

PROF. HENRY WURTZ,
Formerly Chemical Examiner in the U. S. Patent Office, may be employed professionally as a SCIENTIFIC EXPERT. Geological Examinations and Reports, Analysis and Assays, etc., etc. Practical advice and investigations in the Chemical Arts and Manufactures. Invention and examination of new chemical methods and products. Address, 26 Pine street, Rooms 35 and 36, New York. Always in from 12 to 3.30. ☞ Written communications preferred.

Important to Gold and Silver Miners and Companies.
PROFESSOR WURTZ,
Who is the Inventor and Patentee of the new and wonderful uses of SODIUM IN WORKING GOLD AND SILVER ORES AND JEWELERS' SWEEPINGS, will furnish at the above address information in relation thereto, together with experimental packages of
SODIUM AMALGAM.
All instructions and experiments elsewhere obtained are spurious and unreliable. WORKING EXPERIMENTS ON AMALGAMATION OF ORES, Etc. Prof. W. has in operation in New York a large and small Berdan Pan, for working 1,000 or 20-lb. charges of material for experimental purposes. 3v17

G. W. STRONG,
ASSAYER AND WORKER OF ORES,
No. 10 Stevenson street, near First, San Francisco.
Highest price paid for choice lots of Ores, Sulphurets, Assay Ashes, Sweepings, etc., etc. Students instructed in all branches of Metallurgy, on liberal terms.
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Founded in 1852, it is the oldest Weekly Paper in the State, permanently established, and more widely circulated at home and abroad than any other on the Pacific Coast. In California, the Atlantic States, and throughout the entire field of its great and rapidly increasing circulation, THE GOLDEN ERA is universally regarded as a Literary and Family journal of unequalled excellence. Among its contributors are all the best writers on this side of the Continent.

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The PATENT AGENCY of the MINING AND SCIENTIFIC PRESS has been signalized with remarkable success during the past few years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of LETTERS PATENT from the United States and foreign Governments cannot be over-rated, and the Proprietors of the PRESS, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

California Academy of Natural Sciences.

REGULAR MEETING.

MONDAY EVENING, Nov. 2, 1868.

The Vice-President, Dr. J. G. Cooper, called the meeting to order. President Dr. James Blake afterwards came in and took the chair. Twelve members present.

Elected resident member, Amos Bowman.

Mr. Bloomer moved that the Academy adjourn on account of the small attendance and political excitement prevailing. Mr. Gregory Yale objected, and spoke of the necessity of obtaining reliable information in regard to the earthquake, stating also that the public expected something from us on the subject.

Dr. Jas. Blake explained that it is not our province to advance theories as to the cause of earthquakes, as that had been done by men who had made these phenomena a life Time is required to collect facts and obtain reliable information on the subject, and when this is accomplished, the results will be given to the public. We cannot accept newspaper and second-hand reports, and jump at conclusions therefrom, but must wait for scientific investigations.

Dr. Blake inclines strongly to the terrestrial theory of gaseous eruptions and explosions. There are usually two waves in an earthquake; one which moves vertically directly towards the surface, and one which spreads out horizontally from this on the surface, radiating from the center. It is the last, or undulatory shock, which does most damage. On Sunday evening, Oct. 25th, we had these two very distinctly illustrated. The geological formation of the surface has nothing to do with the cause, although a shock is transmitted with three times the velocity and severity through granite or hard rock that it is through sand. Hence, it is safer in this case to "build your house upon the sand" overlying a solid base. The center of our heavy shock was probably a few miles to the north of Hayward's. In this place houses had been moved bodily from their bases; one two feet to the southward; another near by two feet at right angles to the first, and still another eighteen inches up a slope in an opposite direction to the last. All the waves seem to converge toward the San Ramon Valley, to the north of Hayward's. Dr. Blake and others are going to continue their investigations.

Col. Ransom offered the following resolution, which was not acted upon but laid over until the next meeting:

Resolved, That a committee, to consist of the President, Gregory Yale and Dr. J. G. Cooper, be appointed to collect facts connected with the recent earthquake in this vicinity, and that they report the results at some subsequent meeting of the Academy.

WHITE PINE.—All of our Nevada exchanges come to us plethoric with accounts of the extent and richness of the mines in White Pine district, in that State. There is now no doubt but that these mines are yielding an immense amount of silver, as will be seen by referring to our weekly Mining Summary. This is one of the benefits we derive from the Pacific Railroad. It opens up the country to prospectors, and we would not be surprised to hear of similar mines or deposits having been discovered in numerous places along the road. The Austin *Reveille* of Oct. 27th, gives the following exciting account of the mines and manner of working them:

The excavations of the miners, which are of every form and of different dimensions, are necessarily close together; in some instances they are only a few yards apart. These openings vary in depth from a few feet to 20, 30 and 40. In every instance, pockets or bunches of good ore have been struck in these excavations; and in several cases the ore is equal to that produced by the most famous claim in the district. Some claims, as the Stonewall, have large piles of valuable ore upon their dumps. The work in these multifarious mines is carried on with unexampled vigor, and the limestone crown, which covers the rich deposit of silver, is buffeted lustily by stalwart arms. "Why," said the talker from White Pine, "as many as 40 shots may be heard in an hour. Little else is heard during the day but the blows of the sledge and the exploding blasts. In some net-work of claims, where the limestone has been cut only a few feet below the surface, there is danger from the fragments thrown out by the blasts; and when the fuse is lighted, 'look out!' is shouted sharply, and a score or two of men, who were before hidden, jump out of their holes and run to shelter with amazing vivacity. That was the way at first; but as the men lost too much time running and dodging every time a blast went off, they contrive now to set off their blasts about the same time. It's a wonderful place. In my opinion, Chloride Flat is a vast basin of rich silver ore, into which every poor man may dip his iron spoon and help himself."

THE MINING AND SCIENTIFIC PRESS, of this city, has done us the honor to notice us in their columns, and we feel in duty bound to acknowledge the compliment.

It were fruitless for us to say anything in praise of the MINING AND SCIENTIFIC PRESS. * * * It speaks for itself wherever it goes. Its editors are men of intelligence, ability and honor.

We have had frequent occasion to have business relations with the patent agency connected with this establishment, and have had nothing left to desire in regard to it. Fidelity, promptness and courtesy, soon arranged everything for us to our complete satisfaction. Having had frequent delays at Washington while in that city, we have been surprised at the promptitude with which some of our friends obtained their patents through the agency of Messrs. Dewey & Co.—*S. F. Spiritual Light.*

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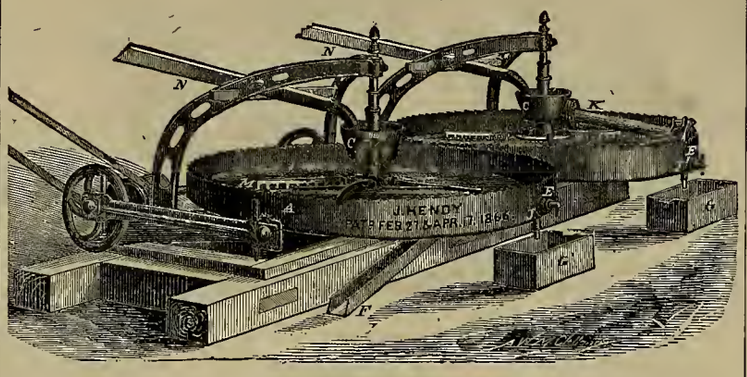
The Libraries, Museums, Laboratories and Apparatus, accessible to students, are various and expensive.

For copies of the Annual Circular and Report, letters may be addressed to the "Secretary of the Sheffield Scientific School," New Haven, Conn. 13v6-1y16p

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THE MINING AND SCIENTIFIC PRESS has entered upon its XVIIth Volume. It has donned a new-style hat; or, in newspaper parlance, a new heading, which gives it the solid, scientific look it merits. Other improvements typographical are also noticeable. No call for improvement in its matter.—*Amador Ledger, July 18th.*

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TWO ROCKS, Sonoma Co., Cal., Sept. 23, 1868.—Messrs DEWEY & Co.—On my arrival home, I found my Letters Patent all arranged to my entire satisfaction. Please accept my thanks for the energy, skill and dispatch with which you procured it for me. In future, should I require assistance in your line of business, I shall most certainly apply to you. Truly yours,

MICHAEL LAUFENBURGH.

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A Journal of Useful Arts, Science, and Mining and Mechanical Progress.

BY DEWEY & CO., Patent Solicitors. SAN FRANCISCO, SATURDAY, NOVEMBER 14, 1868. VOLUME XVII. Number 20.

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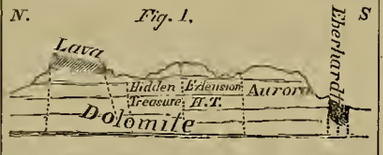
METALLURGY IN COLORADO.—The only method of treating the Colorado sulphurets which has given satisfactory results is smelting, but that has been found practically too expensive, except for rich ores and tailings. Prof. Hill, of the Central City Smelting Works, has recently erected smelting works also at Black Hawk. He roasts the rich ores in heaps, the lumps being broken to about the size of the fist; a heap of fifty or sixty tons is piled up on a stratum of billets of wood, a funnel is left in the center to fire the wood through, and the whole heap is covered with a layer of tailings from the stamps. The fuel is consumed in about twenty-four hours, and then the sulphur and other combustible portions of the ors continue burning for several weeks, and are finally expelled. The ores are reduced in a reverberatory furnace, the hearth of which extends to a length of some twenty yards. They are first introduced at the end farthest from the fire, and are gradually pushed on towards the heated portion. A copper matte, with which the gold and silver is combined, is formed in the furnace, and this Mr. Hill finds most advantageous to ship to Swansea for refining and extraction of the gold and copper. In consequence of the failures of amalgamating processes for the extraction of the gold combined with the sulphurets of iron and copper, the miners have reverted to the old system of passing the pounded ore from the stamps over amalgamated copper plates, and in some mills, after passing from these, it falls on percussion tables, the bottoms of which are formed of corrugated copper plate, also covered with a coating of mercury. This extracts any free gold which may have escaped on the fixed plates, and gathers in the grooves some of the richest portions of the tailings. Probably more than half the gold is lost by this system, which, if it has no other merit, can claim that of extreme simplicity. Sometimes the tailings are saved, and, if rich enough, are treated in pans or are smelted. This may be considered the result of ten years experimenting on the refractory gold ores of Colorado.

MECHANICAL MOVEMENTS.—We have received a second copy of a valuable book for mechanics entitled "507 Mechanical Movements," by Henry T. Brown, of the *American Artisan*, New York, which work was noticed in our issue of Aug. 8, 1868. For sale by Fuller & Co., 109 Montgomery street. Price, $1.

White Pine—Ore Deposits and Geology.

It is evident that the hidden stores of metallic wealth in our silver and golden veins whose magic influence has developed, under the reader's own eyes, the almost boundless energies that the human mind and body, and that individuals and communities are capable of, have not been exhausted, and will not be till the Pacific Railroad and possibly the Darien Canal shall have become old and threadbare facts. It is these resources and the calling into exercise of such energies, that creates giants and heroes in our time, and far down into the future generations of our Pacific Slope will the traces of the generous influences of the mountains and of our smiling subterranean treasures, mark themselves in the peculiar characteristics of the people.

Fig. 1.



No sight can be more edifying than a genuine mining excitement, based upon something real, for it is there where the most refreshing originality of character and the most remarkable individualities develop themselves; where an old sailor becomes Mining Engineer and Mayor of a mountain city, at the same time that he will persistently adhere to his nautical old four hours habit of sleeping and waking "watch and watch;" where prospectors, out of reach of the shoe market, will travel in gunny bags, with a contempt for distances and looming mountains and storms, such as would have won the most complete respect from tough old Ganger Rolf himself; where uneducated people sometimes observantly think themselves into a correct appreciation of the principles of geology such as would put the scientific possessors of communicated knowledge to shame; where every element must bend or give way to the play of human will; and where character everywhere ripples and dashes forth as freely as the brooklet tumbles down a mountain's side.

Fig. 2.



Very agreeably to us a breeze from White Pine came yesterday bringing to us some tangible information of the kind we were in need of, in the shape of a visit from, and a conversation with, the indefatigable Major Sherman, whose career is so intimately identified with the history of silver mining in Nevada. Shermantown, the future city of White Pine, will commemorate his connection with the first notoriety of these mines, since June last—the town lots of which burg were sold for the benefit of a free road to the mines.

What is the nature of these deposits? To this question the answer will be best illustrated by the annexed sections, drawn lengthwise (a distance of 1¼ mile north and south) and crosswise, of Treasure Hill.

According to information heretofore obtained, the deposits thus far worked at White Pine have been described by us as chiefly surface ores and infiltrations, though it was surmised that regular veins would be found to exist in connection therewith, whence the material of the superficial and horizontal deposits was derived. The occurrences in Derbyshire were adduced as an example where true fissure veins and horizontal infiltrations existed extensively together; and Reveille District was cited as an example of the latter, without our being able to give any definite information of the existence of the former, though it may be confidently accepted that the argentiferous solutions everywhere must have traveled through subterranean fissures previous to their deposition at or near the surface.

There are two general directions to the locations and deposits on Treasure Hill, (White Pine), according to Major Sherman's testimony. They are represented by our two sections, from north to south, and from east to west. It would seem that they are ranged along a series of genuine fissure veins, parallel to each other, which exist along the top of the hill, running north and south, (like Fig. 1) and also on the eastern side, while at the southern end of the hill there is the Eberhardt and a parallel series of veins running square across the above mentioned, or east and west, (like Fig. 2). It is maintained by Sherman and others who have given the matter close attention, that these are one and the same series of veins, which make a turn easterly and northerly of the Eberhardt, in the manner indicated by the arrow in Fig. 2; but the supposition is not at all necessary, and systems of veins are much more likely to cross each other than to bend aside in a uniform manner to pursue a different direction—because the forces which opened the fissures operated in straight lines. In the direction of or parallel to Fig. 1 are the Aurora, Hidden Treasure, and a dozen other *named* ledges, a few of which are indicated in the cross section, Fig. 2, and about which there are disputes, and lawsuits,—for the simple reason that the mines have not been opened sufficiently to distinguish the horizontal from the vertical deposits. In the direction of or parallel to the cross section, Fig. 2, are the Eberhardt, Argyle, the Irvine, a mile and a half to the south, etc.

The walls in the Eberhardt, running east and west), and in the Hidden Treasure (N. & S.,) we are told are perfectly defined; a little ragged as far as gone down, but regular, and often smooth on both sides like a whitewashed wall; clearly separated from the chloride ore, and not discolored thereby. "Slickensides" do not exist, a fact which may be accounted for by the nature of the magnesian limestone.

On the top of the hill, in the Aurora and Hidden Treasure mines, the dolomitic limestone crumbles more easily than it does in the Eberhardt, but the ore channels are equally regular. At no place have the miners yet gone down more than 30 feet, so that the data concerning the probabilities of contraction or of the splitting up of veins, are not yet within our reach. The width of the Eberhardt deposit is 180 feet. The continuance of such a vein to any depth would certainly be the most remarkable as to size yet discovered in this country, if not in the world. There is exposed to the sight a deposit as large as Wells, Fargo & Co's building in San Francisco.

The parallelism of other series of veins running in the same directions, if sufficiently established, would furnish the most positive evidence of the existence of deeper ores and true fissure veins throughout the entire district.

But the characteristic and most remarkable feature of the White Pine chloride deposits is illustrated in the cross section, Fig. 2. The limestone strata dip 10 or 15 degrees towards the west. From the veins underneath Chloride Flat, c, c, and to the eastward of Chloride Flat, there is a regular system of overflows from the veins or channels of metal into the interstices of stratification in the limestone; always on the lower or western side as represented, and never on the eastern side of the veins. Miners blasting down through the shaded capping, a, a, find nearly everywhere floors of chloride of silver of varying thickness, from thin sheet to a number of feet in dimensions, and the distances apart of these floors also varies greatly, generally from two to eight feet. The uniformity and extent of these infiltrations is remarkable. The superficial area of the locality known as Chloride Flat, is about 400 yards square.

DARIEN SHIP CANAL.—The newspapers are gaining faith that the Darien inter-oceanic ship canal is really to be dug within a few years, since Seward, Peter Cooper and others have interested themselves in the matter. Like the Pacific Railroad, the Darien Canal is a desideratum certain of speedy attainment as soon as the work is once fairly taken hold of. It will be another of the great historical consequences of the settlement of Oregon and California.

A MODEL PAPER.—Conspicuous amongst the many daily papers on this coast, published outside of this city, is the Virginia *Enterprise*. A glance at its well-filled pages is sufficient to prove its superiority. Published in a noted mining district, it labors to further the mining interest. We are always sure of finding something of interest in its columns, and would find ourselves lost without it. Long may it wave!

VOLCANIC.—It is reported that Mount Hood, Oregon, has followed the example of Mount Baker, W. T., and taken to smoking, and showing other signs of activity.

DIRECT trade between New York and Portland, Oregon, is now inaugurated by the vessels Sally Brown, Hattie Reese, and Oregon.

Communications.

In this Department we invite the free discussion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Metallic Deposits—Gold Nuggets—Theory as to their Formation.

BY DR. LANSZWEERT.

Mr. Cosmo Newberry (before the Royal Society of Victoria), continued his remarks as follows:

Prof. Bischoff has detected the occurrence of gold in meteoric waters, and by experiment he found it was slightly soluble in pure water. Once formed and present in the water, it is, like all other gold salts, easily decomposed. In an experiment I have made, the sulphide of gold was held in solution by a small quantity of an alkaline bicarbonate. A cube of iron pyrites and a chip of wood were introduced, and in a few days small irregular grains of metallic gold were deposited on the pyrites. What part the organic matter took in the reaction is not clear, but the gold was not deposited in the absence of it. In Mr. C. Wilkinson's paper a series of experiments are described in which gold was deposited in the metallic form upon a nucleus from a solution of the chloride by the reducing agency of organic matter—the nuclei being either gold itself or iron, copper, and arsenical pyrites, galena, zinc blende, sulphide of antimony, etc. Organic matter has long been known as an agent for precipitating gold in the metallic state from its solutions. Rose states that oxalic acid precipitates it in metallic laminæ. * * * But it was not known until the experiment of Mr. Daintree, and the following ones made by Mr. Wilkinson, that the deposit would take place on a nucleus, and be continued as long as gold remained in solution. If their action went on in the drifts it would account for the greater purity of the gold, and for the nucleus of brown iron ore so often found in nuggets and crystals. Strong solutions of gold immediately begin to decompose the pyrites, and interfere with the regular deposition of gold by a strong solution. I refer to one containing more than one grain of chloride of gold to an ounce of water. A weaker solution than this also decomposes the pyrites, but so slowly as not to interfere with the deposit taking place regularly. All the other sulphides are also decomposed. In the experiment in which galena was used as a nucleus this decomposition was best marked. Somewhat more than a year ago I placed a cube of galena in a solution of chloride of gold, with free access of air, and put in organic matter. Gold was deposited as usual in a bright metallic film, apparently completely coating the cube. After a few months the film burst along the edge of the cube, and remained in this state, with the cracks open, without any further alteration in size or form being apparent. Upon removing it from the liquid a few days ago and breaking it open, I found that a large portion of the galena had been decomposed, forming chloride and sulphate of lead and free sulphur, which are mixed together, encasing a small nucleus of undecomposed sulphide of lead. The formation of these salts had exerted sufficient force to burst open the gold coating, which upon the outside had the mamillary form noticed by Mr. Wilkinson, while the inside was rough and irregular, with crystals forcing their way into the lead salts. Had this action continued undisturbed, the result would have been a nugget with a nucleus of lead salts; or, if there had been a current to remove the results of the decomposition, a nugget without a nucleus of foreign matter. If, instead of galena, we had had a piece of pyrites to start with, the decomposition would have gone on in the same way, but the result would have been brown iron ore in place of lead salts. This decomposition gives a very simple means of accounting for the oxide of iron so often found in the nuggets and crystals of gold, the latter especially, as shown by the experiments of the late Dr. Becker, by cutting them in halves, and by their established low specific gravity, and their loss in weight suffered in smelting. Finding the brown iron ore of the miocene drifts contained gold, I was led to suppose that, though I could not make gold deposit on it, I might succeed in making them deposit together, which was the case. I arranged a mass of sand with chips of organic matter in it in a vessel, and slowly filtered through it a dilute, nearly neutral solution of sesquichloride of iron, containing a few drops of chloride of gold, and as it passed through repeated the dose. This continued for some weeks without any appreciable change taking place, but after some months thin bands of hydrated sesquioxide of iron began to form across the mass about the center, parallel with the surface. * * * Though the processes I have described will account for the formation of nuggets, it does not account for the appearance of gold in pyrites. I have examined about 100 samples, in none of which do I find any tendency on the part of the gold to assume the form of a coating, it being usually in irregular grains and small octahedral crystals, seldom to be detected, even with the aid of the microscope, until nearly all the pyrites have been oxidized and decomposed. In a few exceptional cases, pieces have been found projecting, but all tends to prove the priority of the deposition of the gold, and that instead of pyrites having formed a nucleus for the gold, the reverse has in a majority of instances been the case. It may also have been the first to deposit in the drift wood, for in all the experiments by Mr. Wilkinson and myself, the organic structure became so impregnated with gold that when ignited (so as to burn off the undecomposed organic matter) a golden model remained. Conditions such as these (before ignition) would be very favorable to the formation of pyrites, offering to a ferruginous water containing sulphates a reducing agent and a congenial nucleus for the crystals to form on. Crystalline gold is very easily made, by simply introducing a chip of wood into a solution of chloride of gold containing five or six per cent. of the salt. The crystals are first seen on the surface of the liquid as a thin film, which, as it grows heavier, falls to the bottom, where it assumes a moss-like appearance. If this is examined under the microscope, it will be found to be a network of octahedral crystals, resembling very closely the gold crystals from pyrites. In these experiments, as in all the others, organic matter is necessary, the action ceasing when it was removed, starting again immediately with a fresh addition. These experiments are based on the assumption that the gold exists in the pyrites in the metallic form, and not as sulphide, as has been supposed to be the case by some. * * * Prof. Bischoff suggests silica as the medium for the transmission of gold to the quartz reefs. Gold, as he points out, certainly has a great affinity for silica, always being found in connection with it in mineral veins in the drifts, and even in the pyrites, where I have always found silica as grains and minute nearly perfect hexagonal crystals, the occurrence of which I have always been at a loss to account for. The Professor's experiment is a very instructive one. He reports it as follows:—"On adding to a solution of chloride of gold a solution of silicate of potassa the yellow color of the former disappears. After half an hour the fluid turns blue, and in time a gelatinous dark blue precipitate appears, which adheres firmly to the vessel. After the lapse of some days moss-like forms are to be seen on the surface of the precipitate like an efflorescence. On exposure to sunlight no reduction takes place, but after the lapse of some months, if the precipitate is allowed to remain undisturbed under water, a decomposition takes place, and in the silicate of gold appear minute partly microscopical specks of gold." If this is the method by which the gold reached the quartz lodes, as this professor argues, the origin of the silica is also that of the gold. The origin of the former we believe to be the silicates of the rocks, by the decomposition of which the silica is conducted to the lode cracks. In these silicates we have therefore to look for the gold, and it is possible that it is contained in them as silicate. To prove this is almost impossible, even if we found the gold; for it must, if present at all, be in a quantity too small to determine whether in combination or not. Silicate of gold is extremely insoluble in water; but if we assume that its solubility is in the same ratio to the solubility of silica as the gold of even our richest quartz reefs is to the silica in the reef, we will find no difficulty in believing this theory is possible. In several instances an amathestine color has been observed in both quartz reefs and the washdirt of the drift. Mr. Alpin tells me that he observed in a lead near Beechworth this color in the washdirt. In the mine no gold was to be seen in it, but on bringing it to the surface and exposing it to the air the color disappeared, and the dirt was found to be full of very fine gold, which looks very much as if there had been a compound of the gold with some other substance. Ulrich some years ago was told by Mr. Clement, a successful quartz miner, that in the center of the German Reef, Maldon, some seventy feet from the surface, where the quartz was ten feet thick, he observed dark blue clayey bands, portions of which on being brought to the surface and exposed lost all color, and were found to be full of very fine gold. Be this as it may, there can be no doubt that nearly all the native sulphides contain gold, especially those which also contain silver. I have found it accompanied with this metal in every sample of iron, copper, and arsenical pyrites, galena, sulphide of antimony, and zinc blende, which I have examined from the rocks of this colony; and Dr. Percy proved its existence in every sample of galena he examined, even though they contained little or no silver. Bischoff, in reviewing facts like these, says that it has been repeatedly proved that in the decomposition of ore lodes the silver takes part in the oxidation processes, and is removed in soluble combinations. * * * If further experiments prove that alkaline silicates favor the solubility of silicate of gold, the silica theory will be open to but few objections, and the difficulties to impede our progress in solving this most interesting problem of chemical geology will be greatly diminished.

[Written for the Mining and Scientific Press.]

Mining in Sierra County.

SIERRA CITY—THE BUTTES MINE.

This place promises to become a lively mining place. Until now no other mine besides the famous Sierra Buttes mine above town, was opened. This pays regularly from $38,000 to $45,000 at each clean-up, about five weeks' run of two mills. The lower tunnel on the level of the upper mill is finished, as they have found the ledge, and commenced drifting now. Mr. Ferd. Rice will go (after the election) to the Eastern States to spend the winter. The mine gives employment to 65 men. A wagon road is projected from Sierra City to Milton's, and in this way a connection with the railroad will be made. A good many mines in the vicinity of the Sierra Buttes are now worked, and all of them appear to be very rich. On the east side of the Sierra Buttes, high up to the Bluffs, is the

PHŒNIX MINE.

This company has a small prospecting mill erected below, on the river, and finished one run of fifty tons, which yielded $2,500. The company will make another run before winter sets in, and during the winter will only work their mine. The mill is rented to the Kentucky Company, which will commence crushing as soon as the Phœnix Company finishes their clean up.

THE KENTUCKY MINE

is situated on the same side of the Sierra Buttes; it runs below the Phœnix from east to west, and was worked already ten years ago, paying at that time well by grinding quartz in an arastra. Since that time the mine was not worked for some time, but the owners then made a contract with Mr. Bisbop to open the mine, and to crush ore for one-half of the gross proceeds. Mr. B. started a tunnel and found the ledge 70 feet deep under the surface. The quartz shows some free gold, although the part of the ledge where the tunnel strikes the same is about 25 feet off from the chimney of pay ore, on which the former party were taking out rich pay. The quartz will pay about $8 per ton, but as soon as the chimney is reached the company can expect pay ore of $50 per ton. The ore will be worked at the Phœnix Company's mill, to which a wagon road is just finished. The Kentucky ledge will either cross or connect with the Sierra Buttes ledges above Sierra City.

Here is a great and promising field for prospectors, which is already opened, as here are two mills, the Phœnix and the Chips mill, both not far from town, and there appear to be a large number of other rich ledges. As soon as the wagon road to Milton's is completed, this part of Sierra City will be easy accessible.

The next mine to the Kentucky is the

SIERRA BUTTES ENTERPRISE,

supposed to be the extension of the famous Rose ledge (one of the three ledges on which the Sierra Buttes Company is working.) The owner of this new claim is Mr. Kane. He started a tunnel about 80 feet below an incline on which he worked before. This work had to be stopped on account of water. The tunnel will tap the ledge a little above Biglow's place. If Mr. Kane could prove that his ledge is the extension of the famous Rose ledge, he would have an undoubtedly valuable property.

On the other side of the ridge, and on the extension of the Sierra Buttes Company's ledges, is situated

THE INDEPENDENT MINE.

The heavy snow slide of last winter forced this company to build a new mill, although their old mill is still running. The last clean up some days ago was over $18,000. The new mill is expected to be finished before the heavy winter sets in.

THE KEYSTONE MINE AND MILL

will soon be in full blast again, and fully recovered from the heavy snow slide of last winter.

THE PRIMROSE MINE AND MILL

are situated in Hog Cañon, above Ladies' Cañon, probably on the extension of the Sierra Buttes ledge, and is now worked again with energy. Mr. P. A. Lamping, the owner, erected a sawmill, and is building a new quartz mill of 20 stamps, and is opening the mine by a shaft on the Good Hope ground 168 feet perpendicular, and dropping from the bottom 480 feet, of which about 120 feet have to be finished to reach the old Primrose ground. This will give stopes of 126 feet, and bring the works again into the formerly rich Primrose ground.

THE SURFACE MINES

in Ladies' Cañon are still paying rich. More extensive river mining on the Yuba river is commenced by building dams and working by water wheels. It is tedious and slow work for miners accustomed to easier and better times, but the work is paying. Companies of white men employ a good many Chinamen.

DOWNIEVILLE.

Quite an excitement in town has attended the final success of the Gold Bluff Mining Company. This company have worked their mine since many a year, but after the ground was worked out they concluded to open their mine again by a lower tunnel. This tunnel was commenced three years ago. The company run a drift from their tunnel, and from this drift a shaft was raised and finally the ledge was struck a few days ago. The ledge dips at an angle of 35 degrees and shows very rich rock. This strike is of the greatest importance for Downieville and vicinity, as it is now proved to evidence that the belt of veins passing above and below Downieville contains true fissure veins. Some, and in fact all mines round here stopped work partly last year, and partly this year, to see the end of the Gold Bluff's Company's work, as everyone round here was convinced that by this deep tunnel of the Gold Bluff Company's mine, the question of continuancy of the mines in close vicinity of town would be settled. This is done by the energy of John Stumpf and his partners, all working men. The proof once more is given that success in quartz mining is dependent upon energy and perseverance. A former company on the same property broke up. Many other companies round here, not finding at the start rich pay, gave up their work and were waiting for these industrious and energetic Gold Bluff men. New life came into this community, and undoubtedly this fall work on many of the surrounding claims will be taken up again. The Gold Bluff Co. will raise their shaft where they struck the ledge by running an incline upwards on the foot wall of their ledge to have air for the lower works. They will establish two levels to work on, and will repair their flume and mill, to start the same again by the first of December, and crush rich ore for years to come. This success of the Gold Bluff Co. has already started the Good Hope Company again, which commenced about two years ago to work a quartz ledge a little nearer to town than the Gold Bluff, and running parallel with this ledge. The Good Hope Company found rich pay on the surface, and is now going to finish the lower tunnel. The Wheeler Company will commence work again, and the Oro mine will be worked by some enterprising men from Indian Valley.

F. B. S.

Sierra City, Oct. 15th, 1868.

Chinese Laborers in the Southern States.—All objections have been withdrawn to the introduction of Chinese laborers into the Southern States. A New Orleans paper says: No further interference of that character can occur without a violation of the stipulations of the Burlingame treaty, which provide for the free emigration and immigration of the people of both nations, placing the Chinese Empire in the same relation to the United States that the European States maintain.

Mechanical.

THE BEST MATERIAL FOR SHAFT-ROPES. The *Colliery Guardian* gives some articles by M. Deroux upon "the winning and working of coal,"—translated from *La Houille*,—from which we take the following upon shaft-ropes: "It is extremely difficult to resolve the problem whether preference is to be accorded to cables of hemp, of aloes, or of wire. Each of these has its patrons and its detractors, and no absolute conclusions have been yet arrived at. The sudden snapping to which wire ropes are liable, has caused them to lose ground in the confidence of engineers. For several years the problem has seemed on the point of being resolved by the employment of steel wire, and especially by the employment of manganese steel wire, the resistance of which, at an equal section, has been found much superior to that of the iron wire. But cables of steel wire are subject to rapid changes; they grow brittle. People accordingly continue the use of hempen ropes, and more especially of "aloe" ropes, which are lighter and offer greater resistance for a given section. The property enjoyed by the aloe thread, of not growing rotten, renders it valuable for employment in pits generally moist, and particularly in those which do not permit the return of the air of the inner workings. M. De Mot, one of our principal manufacturers, says that "under favorable conditions a cable of aloes, lifting a weight of from 3,200 to 3,400 kilos. from a depth of from 400 to 500 metres, and of a mean weight of 7¾ kilos. to the current metre, may extract from 130,000 to 140,000 tons."

LARGE PUMPS.—The *Colliery Guardian* notices some centrifugal pumps just completed at the Hammersmith Iron Works, which are the largest ever made. Each is intended to lift 250 tons, or upwards of 50,000 gallons of water per minute, to the hight of six feet. The revolving disk, or "fan," is 4 feet 6 inches in diameter, and its width at the periphery 8¼ inches. The suction and delivery pipes are 3 feet 6 inches in diameter. The whole hight of each pump is 11 feet 6 inches, and its length 9 feet, while the extreme width, in the direction of the main spindle, is 8 feet 9 inches. The spindles are of Bessemer steel, 6 inches in diameter through the disk. The weight of the disk is 18 cwt., of the spindle 16 cwt., and of each side casing 2 tons 13 cwt., the whole weight of each pump being 7 tons.

ADHESION OF METALS TO METALS.—If two pieces of metal are scraped very clean,—says Prof. Robinson,—a smart blow will make them cohere so as to be inseparable. Gold and silver are thus fixed upon steel surfaces. The steel is scraped clean, a thin piece of the gold laid upon it, the die applied, and a blow with a hammer given. The two metals will not so adhere if polished. Perhaps some of the greasy matter generally used in polishing, remains. Moreover, the scratches and ridges, made by the scraping, allow the air to escape as the pieces come together. In coining, the piece would adhere fast to the die, but for the fact that the hollow which is to form the relief of the coin, is filled with air which is confined by the engagement of the flat face of the die with the coin, and serves as a cushion. In a certain case, the die happened to crack in the highest part of the relief. From that time it was useless, and had to be thrown aside; for it was found almost impossible to separate the coin from it.

CEMENT FOR STEAM PIPES.—The following directions are given for making a cement impermeable by air and steam, which is said to be superior to any in use for steam and gas pipes: Six parts of finely powdered graphite, three parts of slaked lime, and eight parts of sulphate, are mixed with seven parts of boiled oil. The mass must be well kneaded until the mixture is perfect.

TENSILE STRENGTH OF CAST AND WROUGHT IRON.—The extension or elongation of a wrought-iron bar is in proportion to the weight or force tending to stretch it. This ratio does not hold in the case of a cast iron bar, which, instead of being elongated the 1-10000th part of its length for every ton of strain per square inch, is stretched to double this amount, or the 1-5000th part, and moreover does not obey the law as the magnitude of the strain is increased. Judging from the different internal structure of the two materials, one is at first inclined to consider the elongation of cast iron as somewhat paradoxical—to be surprised that it should be double that of wrought iron for the same strain and sectional area. A little reflection will point out that this proceeds from confounding the immediate effect of the strain upon the iron with that which it produces when the breaking weight is reached. Thus, although cast iron extends twice the amount of wrought with a given strain, yet its ultimate tensile strength is barely a third of that of the latter material. Briefly, cast cast iron may be said to extend too quickly—too much at a time, and consequently its ultimate powers of tensile resistance are very soon arrived at. Wrought iron, on the contrary, is not affected so rapidly or to the same extent, and is enabled to bear in consequence a greater strain before its resisting capabilities are overcome.—*Engineer.*

PLIABLE STEEL.—At the Quarterly Meeting of Ironmasters at Norwich, in September,—says the *London Mining Journal*,—samples of steel were shown by Messrs. Fox, Head & Co., from ingots cast by Samuelson & Co., and the wonderful pliability of the metal, two-thirds made of Cleveland iron, created considerable astonishment. It was worked in three different processes, known as the A, B and C. In process "A" the strain was, with the grain 58.6 tons per square inch, across the grain 52 tons; "B," with the grain 50.6 tons, across the grain 48 tons; "C," with the grain 56.3 tons, across the grain 56.3 tons. During experiments with the three processes it was shown that the steel, while cold, would bend double without the slightest flaw, and this either with or across the grain. The heated metal would also bend across the grain, and then, after being doubled, would bend back with the grain; while the plates were afterwards punched, in order to test if the fabric had been in any way injured by heating, and were found thoroughly sound and pliable.

FOREST LEAVES FOR TANNING PURPOSES. At a recent meeting of the Farmers' Club of the American Institute, Mr. Orville M. Tinkham exhibited specimens of leather tanned with an extract obtained from forest leaves, and claimed that not only could a valuable tanning material be obtained from leaves, but that the value of the leaves for manuring purposes would not be impaired by the steeping process involved therein. Mr. James A. Whitney was appointed to make chemical analyses of different varieties of leaves and report on the probable value of the above-named discovery.

USEFUL ALLOYS.—A German chemist has analyzed several alloys which are used in Paris for the manufacture of table ware. The first, a beautifully yellow alloy, is really aluminum bronze, and is composed of 89.3 parts of copper and 10.5 parts of aluminum. The second, "oreide," is composed of 79.7 parts of copper, 13.05 parts of zinc, 6.09 parts of nickel, with 0.28 parts of iron, and 0.09 parts of tin. The two last named are no doubt accidental ingredients. The third is a beautiful white metal, very hard, and taking a beautiful polish. It is composed of 69.8 parts of copper, 19.8 parts nickel, 5.5 of zinc and 4.7 of cadmium.

BRASS.—The following is from Prof. Dussauce on "Alloys" in the *American Artisan:* Ordinary brass must contain 67 of copper and 33 of zinc. Often it contains two to three per cent. less of copper, which is substituted by lead and tin.

Brass employed to make threads must be tenacious, and is composed of 64 to 65 of copper, 33 to 34 of zinc, 0.8 of tin and lead.

Brass to be worked with hammer contains 70 of copper and 30 of zinc. For naval constructions brass is much richer in copper; some specimens contain 76 of copper and 24 of zinc; others are composed of 85 of copper, 14 of zinc, and 1 of lead.

Scientific Miscellany.

The Mound-Builders of Tennesse.

The *Nashville Press* of Oct. 22d, has an account of a lecture delivered in that city by Dr. Joseph Jones, who has been occupied during the past year in the exploration of the mounds of Tennessee. In the center of a pyramidal structure of earth, he found what appeared to be the remains of a chief, surrounded by other human skeletons. Ashes, bits of pottery, and bones, indiscriminately mixed, were found in another part of the same mound. Vases and shell ornaments were also found. Two large stone idols were shown, carved out of a dark iron-colored rock, the largest some thirteen inches in hight, and the other, perhaps, four inches less. One represented a female, and had the hair gathered up behind in a diminutive waterfall, while in the longer specimen, that of a male, the hair was represented twisted in a queue.

Two copper crosses were exhibited, together with three vases, the outsides of which were divided into three regular compartments, having three crosses and three crowns, a vase resembling a child's foot, with the opening at the heel, and another surmounted with a carved head and hemlet, were shown. In a mound near Franklin was found the skeleton of a child, the face of which was covered with a shell ornamented with "hieroglyphics," among which the triangle often occurred. An idol, exhumed from the mouth of Lick Branch, Nashville, was also displayed, and a small female effigy in white clay, with the marks of the cross upon the shoulders.

The Doctor exhibited a great number of implements of warfare, such as stone axes, arrow-heads, knives, spears, etc. Also, culinary utensils, mortars used for grinding Indian corn, and paint. He thinks that the builders of these mounds probably belonged to the great Natchez tribe, which, coming from the south, spread itself through the valley of the Mississippi and its branches.

ARTIFICIAL RUBIES.—The white basis for artificial gems is made by mixing quartz 45.7 parts, carbonate of soda 22.8, calcined borax 7.6, salpeter 3.4, and red lead 11.8—by weight—and heating to redness in a charcoal fire. In England mineral coal is often used instead; and owing to the sulphur therein contained, the product is inferior to that obtained upon the continent. According to M. Douault, a magnificent artificial ruby can be obtained in the following manner: Of the mixture given above 31 parts by weight are taken, which, finely pulverized, are intimately mixed with glass of antimony 2.30 parts, and purple of Cassius 0.05 parts. On cooling this mixture after being well melted it sometimes gives a transparent mass, and at others an opaque product. When transparent it is a brilliant imitation of the topaz; when opaque it forms a splendid imitation ruby by melting 2 parts of it with 8 parts of the primary mixture. The product, when taken from the crucible, is in the form of a brilliant yellow crystal, but before the blow-pipe it is transformed into a vivid red crystal, having exactly the tint of the Oriental ruby.

THE MUSCLES OF INFUSORIA.—Stein, in the recently published second part of his work upon infusoria, modifies the opinion expressed in the first part,—that these organisms had no muscles;—saying that the works of Kuhne have now proved that an independent irritability exists in the muscles, and that their contractile power does not depend upon the action of nerves. Kuhne has shown that an extremely dilute mineral acid, too weak to act upon the intermuscular nerves, will produce strong convulsive movements of the muscles. Ammonia, which does not act upon nerves, will produce the same effect, convulsing the muscles by its fumes even at some distance.

PREPARATION OF CARBON TUBES.—G. Gore thus prepares small tubes, rods, crucibles, etc., of carbon. Articles of the desired shapes, but of sufficient size to allow for shrinkage, are formed of different kinds of wood. These are allowed to dry in a warm place, with occasional turning. They are then enclosed in a copper tube retort provided with two exit tubes for the escape of gas; the tube placed horizontally between fire-bricks and heated,—with extreme slowness at first, finally to bright redness,—by means of a row of Bunsen's burners. It is necessary continually to turn the retort, and so to distribute the heat during the burning process that none of the evolved tarry matter shall be condensed upon the articles;—otherwise their form is distorted. The heat is continued until gas ceases to be evolved. The materials used are the harder woods, as lignum vitæ, boxwood, ebony, etc. The first named is by far the best.

A HINT TO ENTOMOLOGISTS.—The difficulty of securing specimens of butterflies without injury, makes the following worth notice. T. W. Wood, F.Z.S., sends to the *Intellectual Observer* for September, a description of his method of catching the delicate little orange-tip, *(Anthocaris Cardamines)* which sleeps upon the blossom of the wild parsley. A small box (pill-box) is opened and closed very gently upon insect and flower together; the stem is severed outside the box, which is then placed in the pocket. If this is carefully managed the insect will not have moved. The box may be placed under a tumbler with a few drops of prussic acid upon blotting-paper. In a few minutes the butterfly will be dead and stiff. The next day it will relax,—and will then be ready for setting. By this plan, all *fluttering*, which so greatly defaces the beautiful wings, by rubbing off the down, is avoided; no legs are broken off, and no crushing of the insect to destroy its symmetry of form, is risked.

LIGHTNING.—Marshal Vaillant, in a paper read before the French Academy of Sciences upon this subject, after remarking that discharges of atmospheric electricity may take place in three ways, either from a cloud to the earth, or from the earth to the former, or from one cloud to another, says that thunder can rarely be heard except in the two former cases, it being generally much too distant in the latter to catch the ear. He considers what is called "summer lightning" to be not a mere consequence of heat, but the discharge of electricity from very small clouds, which their distance renders invisible to us, though we perceive the sheet of electricity they exchange between each other. Marshal Vaillant is further confirmed in this opinion by the fact that, very soon after "summer lightning" has been observed after a very hot day, large clouds generally appear in the sky with great suddenness.

ANTI-GLACIAL THEORY.—Alfred Tylor, F.L.S. F.G.S., read a paper "on the Quaternary Gravels of England" at a recent meeting of the Geological Society, in which he took the ground that the gravel beds in the valleys of the Aire, Taff, and Rhonda, are due not to moraines produced by the melting of ice, but to a long period of excessive rainfall, which he terms the "Pluvial period." He thinks the ice-action, of which there is evidence, was subordinate to the aqueous action; and that the immediate source of the gravels was the high land adjoining the rivers. Mr. Tylor's view was combatted by several speakers; among whom were Sir Chas. Lyell, Prof. Ansted, Boyd Dawkins, and others.

A MARSUPIAL FISH.—At a meeting of the Farmers' Club of the American Institute, on Oct. 6th, Dr. Feuchtwanger read a brief paper concerning a marsupial fish stated to have been recently caught on the coast of New Zealand, and which has been termed the kangaroo fish from its resemblance in some respects to that animal. The specimen caught measured five feet in length when stuffed, and is described as having a long cartilaginous snout, fine at each side, and legs like those of the jumping quadruped above mentioned.

Washoe Ores, Reduction Mills and Machinery.

Almarin B. Paul, an experienced and well-known quartz operator in Nevada, after giving an interesting review of the mining history of Virginia City and vicinity, in the *Evening Bulletin*, closes with the following:

As will be observed by the foregoing tests, the surface ore of Gold Hill commenced with two-thirds gold and one-third silver; this gradually changed in depth, and my last working on these ores ran down to one-third gold in value to two-thirds silver.

A BIT OF THEORY.

This creates a query, as yet never satisfactorily answered to my mind, and will no doubt have to be propounded many times before we can arrive at a solution that cannot be overthrown. It is presumed and generally acceded to, although some very prominent geologists think not, that these bodies of mineral are ejected from below. But if so, how is it that the surface always carries a higher percentage of gold, and which loses itself as you descend in depth? Are we sure that gold, through the action of the sun's heat in connection with atmospheric action and the other metals, is not the product of silver as a base? As we are all at sea in reference to the formation of gold and silver, we can only suggest theories, noting Dr. Lanszweert, Daintree, and others' views.

A WORD ABOUT THE HOWLAND ROTARY BATTERY.

I will now ask the attention of the reader, if engaged in mining, to a few observations respecting the Howland Rotary Battery, as no act of mine in mining has been more criticized than the adopting of these batteries in my Washoe operations. Their adoption was no blind work, as I had used them for three successive years previous, and in no test with other mills was I beat in returns. I had then and have now great faith in their principle. It certainly is in the right direction. They will in time, I am confident, become popular, especially when introduced with the later improvements, on account of their simplicity, efficient working and cheapness.

SOME SUGGESTIVE FACTS.

They have now been running in the Gold Hill mill of the Imperial Silver Mining Company, for over seven years. As this will be admitted by all to be a good test, we will see how it figures up in the later years as to yield per ton and wear and tear. To get at it we will take the official reports of the company for 1865, 1866, 1867, 1868. It must be understood that the Imperial Company have two mills, one of forty stamps, (rotary) at Gold Hill, run by steam power, and one of eighty stamps (straight batteries) at Dayton, run by water power. The tests I bring up are on ore from the same mine—"Alta"—of which these mills have worked thousands of tons within the time named:

1865—Gold Hill Mill, yield per ton	$30 23
1865—Rock Point Mill, " "	28 75
1866—Gold Hill Mill, " "	31 02
1866—Rock Point Mill, " "	29 72
1867—Gold Hill Mill, " "	29 31
1867—Rock Point Mill, " "	27 98
1868—Gold Hill Mill, " "	20 29
1868—Rock Point Mill, " "	22 22

By this, it will be seen that, with the exceptions of the last year, the Gold Hill mill had yielded a larger percentage per ton than the Rock Point with all its modern improved amalgamating appliances, the former having the Knox pan, which was first introduced when I built the mill.

So much for the yield per ton; now for the wear and tear. The amount of ore worked during the foregoing year, was: Rock Point mill, 95,312 tons; Gold Hill, 43,279 tons. The receipts for old iron during the same period, was: Rock Point mill, $16,338.53; Gold Hill, $4,817.81. This gives the wear and tear per ton of Rock Point mill, 17 cents, and a fraction over, per ton; Gold Hill, 11 cents, and a fraction over, per ton; fractions being about equal.

These are undeniable facts, and will no doubt set quartz men, who are not governed by prejudice, to thinking, as the saving of money in the first investment, and being daily benefited in yield and wear and tear, is an item they generally are ready to consider and accept.

IRON AND WOODEN BATTERIES.

Somehow in California there seems to be an opinion that batteries constructed entirely of iron will not do, while in Europe and America they are superseding the wooden ones. The only trouble in the past with us has been that all iron batteries were too lightly constructed, which proved misplaced economy. In localities where timber is poor or scarce, they certainly are cheaper and more durable. I might here add that my expenses of working ores at Gold Hill mill, from 1st of January, 1862, to 1st July of same year, (being six months,) was $1.52 per ton. This is the only working statistics I can now find among my papers.

THE KNOX PAN.

As I have before observed, the pans for amalgamating introduced into these mills were those known as the Knox Pan. These were originally got up for gold ores, and this was their first introduction into silver mining, and we may say the beginning of the iron pan process of working silver ores, unless we except the Hungarian bowl, or the two foot Bartola pan as the original pan. The Knox pan is four feet in diameter, with iron mullers and copper plated cross-boards, and is in an entirely new direction to either of the above. These pans working so well, there was a general desire to improve on them, which has culminated in more than a dozen different kinds, all of which are about the same thing, varying, however, in size, speed and power. For *amalgamating slowly* I think Knox's is preferable to all others. Waklie made his five-feet diameter, which gained some celebrity through the Smith and Dewey process. These pans were set on brick furnaces and heated by wood. Howland conceived the idea of a stove, as cheaper and better (for the foundry). They were made of iron, and beneath the pan was a circular flue, in which the heat and smoke circulated.

IMPROVEMENTS.

About this time Waklie, I believe it was, took up the idea of using steam directly in the pan (at Mexican Mill, Virginia, Nev.) Howland caught at this idea and put steam instead of smoke into the iron chambers below the pan. About the same time Mr. Palmer, of Palmer, Knox & Co., brought out the false bottom with steam chambers; and these are the steps, in order, which have culminated in the Washoe Pan process, and the introduction of the Varney and Wheeler & Randal pans, which have attained a great popularity from their pulverizing as well as amalgamating qualities.

THE GERMAN PLAN PREFERABLE.

Although the first, as I claim to be, to launch out on this new line of working silver ores, I nevertheless think it would have been better for Washoe had the German mode been adopted. It would have been going slower, to be sure (which does not suit our active American blood), but that is what we have got to learn in mining land with it—not to expect too much in a short time. We would have been going slower, as I before observed, but we would have had 30 per cent. more bullion out for circulation, or the Comstock lode many thousands of tons unextracted.

A FINAL SUGGESTION.

I don't think it would hurt any of us young American miners either if we would set aside a little of our conceit, and study European and even Mexican modes more than we do, especially the former. We act, talk, write and think too much as though there never was any mining done until California was discovered and Americans went to mining. I don't think it would hurt the shareholders of the Comstock to reflect on their losses, as on an average 40 per cent. of the Comstock metal is going into the Carson river. The general idea is that a School of Mines is going to remedy all these evils. It may in years to come, but there are any number of practical and scientific miners in California obtainable at fair salaries, who know more of metallurgy and mining than a School of Mines can teach new pupils in a quarter of a century. Why not commence now if we want to remedy evils by science? I do not wish to be understood as being opposed to a School of Mines—that would be absurd.

As Prof. Phillips has well observed: Practice is as essential as science.

CREATION OF MAN IN HAWAII.—The god Kane drew his image on the sand, and called it to life by the prayer oft repeated: "*E hiki au e ola*"—"Live through my power." It became a man named *Hulihonua*, or "turning earthward," as did the god when drawing the figure. The man lived, and, being tired of his lonely life, besought the god for a companion. The light from the heavens, *lani*, cast his shadow on the sand. It became a woman, and she was named *Keakahulilani*—"Shadow looking heavenward" (for its source). These were the aborigines of Oahu, their names as above being found in an old *mele* of the Oahu chiefs.

(Written for the Mining and Scientific Press.

An Opportunity for the Erection of Iron Works.

In the development of the unmatched resources of California, one of our faults has been to neglect what may be called the sinews of our strength and wealth, for objects which glittered. Agriculture generally was deserted in early days for gold digging, and now, iron, tin, granite and marble are neglected for gold and silver. This is wrong. We should not give any one or two interests a monopoly of our attention and capital. In diversity of industry lies the greatest wealth and the greatest safety and strength. This, the history of the richest countries of the world has abundantly shown.

The fame of the wealth of the Sierra Nevada range in gold and silver deposits is world-wide; but little comparatively is known, because but little has been done to show how rich they are in iron, marble, granite, lime, copper, tin, and many other valuable deposits. The first named—iron—is the most requisite metal to commerce. We use vast quantities of it, and enrich those who produce it abroad, and those who carry it to us from thence, every year. This we need not do. Large deposits of iron ore are found in many places in the Sierras, notably at a point distant seven miles from Tinker's Station, on the Pacific Railroad line, above Cisco. This ore is of the very best possible kind, and without selection or picking, yields, when smelted, 80 per cent. of pure iron, of a quality which is suitable for steel making purposes. The locality is thickly covered with timber, and a really first class road connects it with the railroad line. A trip to this place would not cost over $50, and is one of the pleasantest possible. The development of this iron would hardly fail to be very profitable to our manufacturing interests, and we think it would be wise for some of those interested to visit the place and see for themselves the advantages that are offered. No speculators have possession of these iron beds; they are open to the first parties who come along to work them in good faith. The Pacific Railroad Company offers every inducement to those who set about developing any of the rich resources along the line of its road. Only half the usual charges are levied upon the native products. The State of Nevada is a large consumer of iron, and the deposits named are about 250 miles nearer to it than this city is, whence our sister State receives her iron supplies. The difference in freight charges would therefore constitute a handsome premium to the iron of the new district. Will some of our iron merchants or foundrymen look into this matter? There is both profit to the individuals and the State in it.

T. M. G.

San Francisco, Nov. 16th, 1868.

NEW INCORPORATIONS.—Articles of incorporation have been recently filed in the County Clerk's office in this city as follows:

KERN RIVER IRRIGATION CO.—Kern Co. Nov. 7th. Capital stock, $50,000. Trustees: W. C. Ralston, Alvinza Hayward and E. V. Joice.

CALIFORNIA TYPE FOUNDRY CO.—San Francisco. Nov. 9th. Capital stock $100,000; 1,000 shares, $100 each. Trustees: Wm. Faulkner, G. L. Faulkner and F. W. Faulkner,

DRUIDS HALL SOCIETY.—San Francisco. Nov. 11th. Capital stock, $50,000; 5,000 shares, $10 each. Trustees: J. L. E. Schuetzen, H. J. Hartnagle, Conrad Berghofer, Julius George, Fred. G. E. Tittel, John Staude, John Otto, Charles Kittelberger, Adolph Falk, Geo. Hobe, J. W. Andrzeiowsky, Theodore Hartung, Joseph Lingenfelser, J. Vanderleith, Jacob Vogelsdorff and Julius Wildermuth.

ELECTION OF OFFICERS—EMPIRE MINING CO.—Nov. 2d. Trustees, Delos Lake, John O. Earl; President, Delos Lake; Secretary, T. W. Colburn.

RISING STAR S. M. CO.—Idaho Territory, Nov. 2d. Trustees, Geo. D. Roberts, J. W. Gashwiler and J. C. Flood; George D. Roberts was also chosen President.

PILE driving over the main channel of the Yuba is progressing finely.

IRON ore mining is flourishing in Western Massachusetts.

FARMERS in Montana are trying to domesticate the buffalo.

THE farmers at Tampa and Clear Water Harbor, Florida, have engaged their crop of oranges at $20 per thousand.

IN the Platte Valley the wheat crop will yield forty bushels per acre, in a large portion of the valley; oats fifty to eighty bushels.

BALLOON ascents have shown that over England the cloud region has a thickness varying from 1,500 to 3,000 feet, and that the temperature at the top is not lower than at the bottom.

THE Egyptian Government has appointed the English traveler, Mr. S. Baker, to direct an expedition toward the sources of the Nile, with a view of establishing commercial relations with the natives.

COBALT IN TASMANIA.—The Hobart Town *Mercury* of the 17th inst., says: "Some time ago a lode was discovered on the river Don, in the Devon district, yielding cobalt, silver, copper, and antimony.

A SECTION of the Perry block pavement was laid at the corner of Montgomery and Jackson streets last Saturday. The advantage claimed for it is a kind of fossilization process, rendering wood indestructible by moisture, age or the *toredo*,

A SCIENTIFIC KING.—The King of Siam is an able astronomer, and possesses a collection of instruments that would excite the envy of any European savant. He edits the Bangkok Almanac and makes frequent and long excursions in order to study the starry firmament.

COLONIAL TIMBER.—The Hobart Town *Mercury* reports that a Huon-pine waterwheel, which has been at work for nearly fifty years, underwent examination, and was found to be almost as sound as on the day of its erection. This fact speaks well for the durability of our colonial-grown timber.

PRACTICAL ASTRONOMY.—A French astronomer, Lieutenant Fleuriais, has been sent to Honolulu by his Government to ascertain more accurately the longitude of that port, as a basis for future astronomical and geographical research. Occultation of the various stars will furnish him with data.

EXPLORATION OF THE HIMALAYA.—Prof. Robert Von Schlagintweit, of the University of Giessen, one of the celebrated explorers of India, especially of the Himalaya region, is soon to arrive in this country, under an engagement to deliver a series of lectures at the Lowell Institute of Boston, on "The Results of a Scientific Mission to India and Upper Asia."

A POPULAR German geologist and liberal politician—Prof. Karl Vogt—has been engaged by a New York manager to lecture in the United States. Vogt is not only a learned naturalist, but famous as the leader of the liberal school. He was one of the celebrities of the Left in the Frankfort Parliament, and when that body, in June, 1849, went from Frankfort to Stuttgart, he was elected one of the five regents of the empire. He is an eloquent speaker.

THE CATHOLIC RELIGION IN CHINA.—The Catholics are erecting a $3,000,000 cathedral in Canton, China, and another, quite as magnificent and costly, is to be put up in Pekin, while in nearly every important city of the empire they are building a church. The Jesuits throughout the empire have adopted the dress, habits and customs of the Chinese—eating as they eat, sleeping as they sleep, shaving the forehead and not the crown, just as the Chinese shave theirs.

THE orange louse or aphis is destroying the orchards at Kona. From one orchard of three hundred trees there is a prospect of but 2,000 oranges, less than the fair yield of a single tree, and the largest orchard in the country is about to be turned into a cane-field. The blight, which has appeared and receded so capriciously for many years, seems now to have settled down beyond any reasonable hope of relief. Under these circumstances, it is unlikely that any further attempt at fruit culture will be made in this beautiful district, though coffee culture is being slowly extended, the percentage of loss by blight leaving a margin of profit.

PICNICS.—All in search of health, pleasure or recreation, will find Woodward's Gardens one of the most desirable places of resort this side the garden of Eden. *

IT may be singular, perhaps not, that no one who has purchased spectacles of C. Muller, 205 Montgomery street, is ever dissatisfied with his bargain. *

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board.

San Francisco, November 14, 1868.

Financial.

Our local money market is undergoing a slight pressure of the screw, but is very far from experiencing the throes which are reported to be convulsing the Eastern markets. An inclination to hold balances is apparent among the banks and savings and loan institutions, and although the deposits in these last are about equal to the withdrawals, the demand for money is so great as to exceed the means of supply. Some have ceased for the present to receive applications for loans upon mortgage, and flat loans are wholly ignored. The only ones effected are made re payable in monthly instalments at rates rather higher than below 12 per cent. per annum. Offerings upon collateral security are large. First-class business paper, with double endorsements, is done at 1¼ per cent. per month; acceptable paper rules at 1½ per cent. monthly. While it is admitted that there is a scarcity of money at present, yet we are wholly free from the financial agitation experienced in New York, because the nature of our currency will not permit the discreditable transactions systematically effected in that city. Whenever stringency occurs here, it is real, arising from the scarcity of coin, and the scarcity, just now, is due to the more extensive employment of money all over the State. It is possible that hereafter the Secretary of the Treasury may be enabled to repress the tendency to speculate in gold and legal tenders. He has announced, that he possesses the power to re-issue any legal tender notes that have been redeemed, but not canceled, to the amount of $400,000,000. Of this sum $356,000,000 have never been redeemed, and are now in circulation, while $44,000,000 have been retired but not canceled; and it is this latter sum the Secretary holds ready to re-issue. Should he do so, it will preclude the necessity of selling Government gold to that amount, and will seriously interfere with the schemes of unscrupulous speculators who make it a point to obtain and lock up, out of the market, from ten to twelve millions of currency about the time of the banks' quarterly statements, thereby causing a severe pressure for the time being. The fact that the Secretary can come to the relief of the business community will have the effect to repress such speculations.

A great deal of our coin has been paid over to farmers while their products are lying unsold in our warehouses, which at present hold considerably more grain than ever before. So soon as this shall have been disposed of, our stringency will be at an end. Gold bars are in good supply, having come to the relief of the silver market, the bars of which are scarce and in demand. We quote gold bars from 830@830, as the extremes, the bulk of the business being confined within those margins. Silver bars rule from par to ¼ per cent. premium. Currency bills on Atlantic cities sell at 83 per cent. premium on gold; sight drafts, payable in coin, are negotiated at 1 per cent. premium; telegraphic transfers are made at 1¼ per cent. premium; sterling exchange is at 48¾@49d; commercial do, 49⅛@49¼d; Mexican dollars are quotable at 4@6 per cent. premium. Gold in New York, on the 12th instant, was selling for 133½. With us Legal Tenders rule at 73½@74.

City Stocks.

Dullness pervaded the market for miscellaneous securities during the period under review. The sales in the Board have been—100 shares San Francisco Gas stock at $72 per share; 3 shares State Telegraph stock at $20. At the close California Steam Navigation stock declined to 65 per cent; Spring Valley Water realized $65, and San Francisco Gas sold at $73.

The Merchants' Mutual Marine Insurance Company paid its annual monthly dividend of 1 per cent. on the 10th instant. The Bank of California will pay its usual dividend of 1 per cent. per month on the 16th instant. The California State Telegraph Co. announces its usual dividend, payable on the 16th inst.

Mining Share Market.

The list of mining stocks usually dealt in experienced a very marked decline during the past week, as will be more fully noticed in the remarks upon the various stocks herewith given. This depression culminated on the 11th instant, since which time some stocks have improved; however, the market is not characterized by any great degree of vitality, and sales have been comparatively light, having in the aggregate fallen considerably below the transactions when the daily open session was held.

Concerning the Comstock lode, a correspondent of the *Alta* writes as follows: "I suppose that it is no longer a secret that no considerable quantity of paying ore was discovered in this level [900, Crown Point]. There is abundance of quartz which works very easily, and the ledge is as clearly defined as at any point above, but the pay streak appears to have "jumped over," and must be sought beyond the clay wall, or still further below. There appears to be no fear that the bottom of the *bonanza* has been reached, but certain it is that this 900-foot level is a barren one. Those who argue that the Comstock lode must be tapped at great depth to relieve the mines from water are surprised and to some extent confounded by the discovery that at this depth no water is found. The water ceases to trouble the miners before this level is reached, and very little pumping is required. In the Yellow Jacket the pumps now run only about half the time. As the drifting on this level approaches the Kentuck ground, traces of pay ore are discoverable, and Mr. Jones [the Superintendent], appears confident that the latter Company will develop a great body of it. The drift is within twenty feet of the Kentuck line, and it is his intention to run on into their ground and prospect it well on this level. Ascending a ladder for fifty feet, we come to a fine body of rich ore in the Crown Point ground, midway between the 900- and 800-foot levels. This has been followed for 175 feet, and the end is not yet. There is enough rich ore in this body now in sight to last for some months at least. Descending again to the 900 foot level, we entered the cage and went up to the 800-foot level; then passed through the Kentuck ground, rambled around the various chambers, inspected the great bodies of ore in that mine, and finally came out into the Yellow Jacket, and returned to the surface of the earth through the hoisting works of that Company. The Kentuck has ore enough in sight to enable them to pay dividends for the next eight months—so old miners tell me, and so Mr. Jones thinks; he ought to know—and the Company is working very successfully, perhaps more so than any other on the ledge. It is a noticeable fact that all the ore in the ground south of the Yellow Jacket pitches towards the ground of that Company, and this, with the recent developments there, leads people in Virginia and Gold Hill to entertain great confidence in the future success of that mine, a confidence which is strengthened by the $300 dividend just declared."

Imperial.—declined from $97 to $83, rallied to $91, and closed at $88. On the 11th instant, $7,991 in bullion was dispatched to the office in this city. The shaft had attained a depth of 142 feet below the 900 level on the 9th instant, and at that date the rock was soft in the north end, while about three-fourths of it continued in hard rock. In the drift near the north line, running west, on the 900 level, they passed through the top part of a body of quartz containing a large quantity of lead and iron, but no silver, and as this base ore does not extend above two feet in height in the drift, they cannot prospect it below the bottom of the drift until the ledge is opened and the water drawn off. It is believed that by sinking in this base material a body of pay ore will be encountered.

Savage—declined materially since our last review, selling as low as $56, rallying to $63, and closing at $61 75. The bullion returns for the month of October foot up $128,000, against $140,000 in September. This company passed their dividend for the present month.

Crown Point—sold to a larger extent than the previous week, declining from $42 50 to $32 50, improving to $39, and closing at $37. Letters to the 10th instant state that enough work has been done on the 850 level to demonstrate that the body of ore will average from four to eight feet in width, and that it will extend south at least 160 feet and up to the 800 level track floor, showing a value of $28 to $40 to the ton. The rock in the shaft continues hard. A winze was started at a point five feet north of the south winze on the 900 level. The receipts of bullion for the month of October amounted to $45,669 51, and the expenses, including disbursements for supplies, foot up about $65,000. In September the bullion returns aggregated $44,369.

Hale & Norcross—sold within a range of $43 50@36, improved to $52, and closed at $47 60. During the month of October $26,641 26 in bullion was obtained from 1,228 tons of ore.....Kentuck dropped from $220 to $175, rallied to $191, and at the close realized $181.

Chollar-Potosi—receded from $136 to $120, then sold at $127 50, and closed at $126. During the week ending November 6th, 1,086 tons of ore were extracted, against 1,746 tons the previous week. In their new works, the north drift on the 1100 level is in hard rock. On the 6th instant, the whole length from incline was 876 feet, and the depth of incline 418 feet, being 58 feet below the 1200 station. At the present rate of sinking they expect to reach the 1300 level by the 20th of next month. On the 10th instant, $11,718 48 in bullion was forwarded to the office in this city.

Gould & Curry—declined from $85 to $66, improved to $70, and closed at $75. They have concluded to make a station at a depth of 1,056 feet in the new shaft, which will be called the seventh station. The indications at this point at present are more favorable for successful developments than at any portion of the shaft.....Confidence was not in the market during the period under review. Shipment of bullion on the 9th inst., $2,737 75. The annual meeting of this company was held yesterday afternoon. The accounts are made up for the fiscal year closing October 31, 1868, and, through the kindness of the Secretary, we are permitted to give the following statistics:

RECEIPTS.	
From bullion, 4,098 tons, equal to $19 89 per ton	$81,345 75
From ore sold	1,360 76
From assessment No. 6, of $10	15,600 00
From book accounts	11,479 97
From notes discounted	13,753 88
From other sources	7,836 70
	$131,326 01
DISBURSEMENTS.	
For reducing ores	$54,072 00
For mine expenses	36,600 23
On book accounts	19,696 48
Bills payable	15,803 83
Other payments	8,243 37
	$131,326 01

The liabilities are stated at $3,378 09; assets, $1,500—leaving the net liabilities at $1,878 09.

Amador—sold at $215@210. During the week ending Nov. 7th, they extracted 637 tons of quartz, and during the same time the Badger shaft has been increased in depth ninetecu feet, the vein showing the same as heretofore. The north drift on the Sacramento level has been driven about eight feet, and the ledge is said to be increasing in size as they advance.....Opinn was in the market at $20@17 25, closing at $18. On the 4th inst., the shaft was 519 feet in depth. An assessment of $3 per share was levied on the 9th instant. Joseph Marks has been elected Secretary of this company, in place of Robert George, resigned.

The sales in the Board during the past week amounted to $1,381,280.

A distinguished Methodist Minister and prominent Temperance Lecturer once remarked that go where he would, from one end of the country to the other, he hardly ever failed to find Plantation Bitters; and while he condemned the practice of using these Bitters too freely, he could not conscientiously say that he would discard them from the side-board, for he had himself experienced beneficial results from their use, and that, from a long and close observation, he was convinced that when used moderately, and as a medicine exclusively, they were all that was recommended. At the same time he warned his hearers not to pull the cork too often, for they were far too pleasant a tonic to trifle with.

Muzzle-loaders.—All the muzzle-loading arms in use in the English colonial stations are to be recalled for conversion into breech-loaders.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE.
Alameda Coal, Sept. 17, 50c..	Oct. 27	Nov. 16
Amador Co., dividend, $5 per share	Payable Oct. 20, 1868	
Bullion, Aug. 19, $10	Payable immediately	
Bacon, Storey co., Nev., div	Payable June 19, 1868	
Belcher, Storey co., Nev., Oct. 6, $25	Nov. 6	Dec. 8
Chipiconea, Mexico, Nov. 6, $2.50	Dec. 11	Dec. 28*
Cherokee Flat, Butte co., Oct. 20, $5	Nov. 23	Dec. 9
Cordillera, Mex., Oct. 16, $1	Nov. 18	Dec. 7*
Chollar Potosi, div., $25	Payable Oct. 15, 1867	
Crown Point, dividend, $7.50	Payable Sept. 12, 1868	
Colorado, Arizona	Annual Meeting Dec. 28*	
Diamond cop., Del Norte co., Oct. 28, $2	Nov. 10	Dec 28*
Fogus, Amador co., Oct. 23, $2.50	Nov. 24	Dec. 12*
Empire M. & M., Nev., dividend $6	Payable May 15, 1867	
Eureka, div. $5	Payable Oct. 22, 1868	
Gould & Curry, div., $7.50	Payable May 15, 1867	
Gold Hill Q. M. & M.—dividend, $7 50	Payable July 13, 1868	
Golden Rule, Tuolumne co, div 50c ₱ sh	Payable Aug. 23*	
Great Central, Arizona, Oct. 9, $2.50	Nov. 11	Dec. 30*
Gold Hill Tun., Storey co., Nev, Oct. 9, $2	Nov. 18	Dec. 9*
Glenwood Mill, El Dorado co., Oct. 10, $50	Nov. 20	Dec. 9*
Hope Gravel, Nevada co., Oct. 5, $1	Nov 10	Nov. 30*
Halo & Norcross, div. $125	Sept. 16, 1867	
Hale & Norcross, Virginia, Oct. 12, $10	Nov. 14	Dec. 5
Imperial, Storey co., Nev., div	Payable June 20, 1868	
Julia, Storey co., Nev., Oct. 22, $1.50	Nov. 25	Dec. 14
Kentuck, div., $20 per share	Payable Nov. 10, 1868	
Kentuck, Storey co., Nev	Annual Meeting Nov. 25	
Kearsarge, Inyo co	Annual Meeting Nov. 26	
Mt. Tenabo, Lander co., Nev	Annual Meeting Nov. 26*	
Morning Star, Alpine co., Sept. 25, $2.50	Nov. 2	Nov. 23
North Star, dividend, $5	Payable Aug. 15, 1868	
Nevada County M. Co., $1	Nov. 18	Dec. 19*
Ophir, Storey co., Nev., Nov. 9, $3	Dec. 12	Jan. 2
Oriental, Sierra co., Nov. 9, $2	Dec. 14	Dec. 30
Pacific Unassessable, div	Payable June 18, 1868	
Pacific Coal, Sept. 19, $12.50	Oct. 29	Nov. 18
Rattlesnake, Yuba co., Oct. 13, $2	Nov. 18	Dec. 7*
Rising Star, Idaho, Sept. 11, $7.50	Oct. 24	Nov. 25
Rippon, Alpine co., Oct. 15, $1	Nov. 19	Dec. 8*
Senator, Storey co., Nev., Nov. 2, 50c	Dec. 4	Dec. 24*
Savage, Virginia, Nev, dividend, $5	Payable Oct. 10, 1868	
Sierra Nev., Storey co., Nev., Sept. 25, $10	Oct. 27	Nov. 14
Santiago, Silver City, dividend	Payable Sept. 10, 1868	
Santa Spring Salt, dividend $1	Payable June 5, 1868	
Utah, Humholt co., Nev	Annual Meeting, Nov. 25	
United States, $1	Sale Nov. 18	
U. S. Grant, Nevada co., Nov. 9, 50c	Dec. 15	Jan. 2*
Virginia & G. H. Water Co	Dividend, payable May 15, 1868	
Yellow Jacket, div., $300	Payable Nov. 10, 1868	

Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. Stock and Exchange Board.

Friday Evening, Nov. 13, 1868.

Miscellaneous Stocks.	Bid.	Asked.
United States Bonds, 5 20s	$ 80	81
Legal Tender Notes	73½	74
California State Bonds, 7s, 1857	95	95
San Francisco Bonds, 10s, 1851	par	& int.
San Francisco City Bonds, 6s, 1855	—	—
San Francisco School Bonds, 10s, 1860	100	—
San Francisco School Bonds, 10s, 1861	par	& int.
San Francisco City and County Bonds, 6s, 1858	85	90
San Francisco City and Co. Sch'l Bds, 7s, 1865	90	—
San Francisco City and Co. Bonds, 7s, 1862	90	91
San Francisco City and Co. Bonds, 7s, 1864	90	—
San Francisco City and Co. Bonds, 7s, 1865	90	—
San Francisco City and Co. Jndg. Bds. 7s, 1863	90	—
San Francisco City and Co. Judg. Bds, 7s, 1864	90	—
Sacramento City Bonds	23	25
Sacramento County Bonds, 6s	70	73
Marysville Bonds, 10s	75	80
Stockton City Bonds	50	70
Yuba County Bonds, 8s	77	78
Santa Clara County Bonds, 7s	75	77
Butte County Bonds, 10s, 1860	70	75
San Mateo County Bonds, 7s	75	80
California Steam Navigation Co	50	57
Spring Valley Water Co	65	66
State Telegraph Co	—	23
Gas Companies.		
San Francisco Gas Co	73	—
Sacramento Gas Co	70	73
Railroads.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Dumbarton Railroad	70	—
Central Railroad	55	58
North Beach and Mission Railroad	67	69
Front Street, Mission and Ocean Railroad	11	12
Banking Institutions.		
California, Loan and Savings Society	—	—
Pacific Bank	97½	100
The Bank of California	157	158
Insurance Companies.		
Firemans' Fund Insurance Co	92½	94
Pacific Insurance Co	124	125
San Francisco Insurance Co	—	105
Merchants' Mutual Marine Insurance Co	500	525
California Insurance Co	1300	1400
Union Insurance Co	92	93
California Home Insurance Co	19	—
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	72	—
Golden Gate Insurance Co	72	—
Builders' Insurance Co	—	—
Mining Stocks—Washoe District.		
Alpha	27½	28
Baltimore American	—	—
Belcher	120	125
Bullion, G. H.	12	—
Crown Point	36¼	37
Confidence	—	—
Chollar-Potosi	127	128
Daney	4	5
Exchequer	15	16
Empire Mill and Mining Co	—	—
Gould & Curry	70	73
Gold Hill Quartz	40	50
Hale & Norcross	47	47½
Imperial	88	88½
Kentuck	180	181
Lady Bryan	9	10
Ophir	17	18
Overman	43	44
Savage	61½	62
Sierra Nevada	20	—
Yellow Jacket	835	840
Golden Rule, California	6	—

San Francisco Market Rates.

Wholesale Prices.

	Friday, N. v. 13, 1868.	
Flour, Extra, ₱ bbl	$5 50	@$6 00
Do. Superfine	5 00	@ 5 25
Corn Meal, ₱ 100 lbs	3 25	@ 3 50
Wheat, ₱ 100 lbs	1 75	@ 1 77½
Oats, ₱ 100 lbs	1 95	@ 2 00
Barley, ₱ 100 lbs	2 35	@ 2 37
Beans, ₱ 100 lbs	3 90	@ 4 00
Potatoes, ₱ 100 lbs	80	@ 1 00
Hay, ₱ ton	10 00	@14 00
Live Oak Wood, ₱ cord	9 00	@10 00
Beef, extra, dressed, ₱ lb	8	@ 10
Sheep, on foot, ₱ lb	3 00	@ 3 25
Hogs, on foot, ₱ lb	4½	@ 5
Hogs, dressed, ₱ lb	8	@ —
Groceries, etc.		
Sugar, crushed, ₱ lb	—	@ 15½
Do. China	9	@ 10
Coffee, Costa Rica, ₱ lb	16	@ 16½
Do. Rio		@ 15½
Tea, Japan, ₱ lb	75	@ 90
Do Green	60	@ 1 25
Hawaiian Rice, ₱ lb	9	@ 10
China Rice, ₱ lb	6	@ 7
Coal Oil, ₱ gallon	35	@ 40
Candles, ₱ lb	15	@ 18
Ranch Butter, ₱ lb	60	@ 75
Isthmus Butter, ₱ lb	30	@ 40
Cheese, California, ₱ lb	15	@ 20
Eggs, ₱ dozen	70	@ 75
Lard, ₱ lb	13	@ 14
Ham and Bacon, ₱ lb	14	@ 18
Shoulders, ₱ lb	6	@ 8
Retail Prices.		
Butter, California, fresh, ₱ lb	75	@ 80
do. pickled, ₱ lb	30	@ 40
do. Oregon, ₱ lb	10	@ 25
do. New York, ₱ lb	35	@ 45
Cheese, ₱ lb	20	@ 25
Honey, ₱ lb	25	@ 50
Eggs, ₱ dozen	75	@ 90
Lard, ₱ lb	15	@ 17
Hams and Bacon, ₱ lb	20	@ 25
Cranberries, ₱ gallon	85	@ 1 00
Potatoes, ₱ lb	1½	@ 2
Potatoes, Sweet, ₱ lb	3	@ —
Tomatoes, ₱ lb	8	@ —
Onions, ₱ lb	8	@ —
Apples, No. 1, ₱ lb	4	@ 5
Pears, Table, ₱ lb	5	@ 7
Plums, dried, ₱ lb	11	@ 13
Peaches, dried, ₱ lb	—	@ —
Oranges, ₱ dozen	75	@ 1 00
Lemons, ₱ dozen	1 00	@ 1 50
Chickens, apiece	50	@ 75
Turkeys, ₱ lb	20	@ 25
Soap, Pale and C. O	7	@ 12
Soap, Castile, ₱ lb	15½	@ 16

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

Friday, Nov 13, 1868.

Iron.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Dar 1@1¼c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1¾@1¾c ₱ lb; Plate, 1¾c ₱ lb; Pipe, 1¾c ₱ lb; Galvanized, 2¾c ₱ lb.

Scotch and English Pig Iron ₱ ton	$35 00	@$40 00
White Pig ₱ ton	— —	@ 40 00
Refined Bar, bad assortment, ₱ lb	— 03	@ — —
Refined Bar, good assortment, ₱ lb	— 04	@ — —
Boiler, No. 1 to 4	— 04¾	@ — —
Plate, No. 5 to 9	— —	@ — 04¾
Sheet, No. 10 to 13	— 04½	@ — 5
Sheet, No. 14 to 20	— 05	@ — 5¾
Sheet, No. 24 to 27	— 05	@ — 6¾
Copper.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb		
Sheathing, ₱ lb	— —	@ — 26
Sheathing, Yellow	— 20	@ — 21
Sheathing, Old Yellow	— 10	@ — 11
Bolts	— 21	@ — 22
Composition Nails	— 21	@ — 22
Tin Plates.—Duty: 25 ₱ cent. ad valorem.		
Plates, Charcoal, IX, ₱ box	12 00	@ — —
Plates, I C Charcoal	— —	@ 11 00
Roofing Plates	10 00	@ 10 50
Banca Tin, Slabs, ₱ lb	— —	@ — 30
Steel.—English Cast Steel, ₱ lb	— —	@ — 15
Quicksilver.—₱ lb	— 55	@ — 60
Lead.—Pig, ₱ lb	— 7½	@ — 8
Sheet	— 10	@ — —
Pipe	— 11	@ — —
Bar	— 9	@ — 9½
Zinc.—Sheets, ₱ lb	— —	@ — 9½
Borax.—California, ₱ lb	— 20	@ — 23

The Animal Kingdom in Tasmania.—Gerard Krefft, the curator and Secretary of the Australian Museum, Sydney, has prepared a *brochure*, in which all that is indigenous in the animal kingdom of Tasmania is carefully classified and described. In summing up the vertebrata of the island (leaving out the extinct dingo, seals, whales, and marine fish), we find there are 26 mammals, 162 birds, 6 lizards, 3 snakes, 7 frogs, and 4 fresh-water fishes—in all, 208 vertebrata, about 37 of which may be considered as peculiar to Tasmania. The invertebrata have been collected to the number of more than 1,000 species—that is to say, of the class insecta, 950 species, and 98 of the class mollusca; 21 of the latter are land shells, and nearly all peculiar to Tasmania. The insects appear, with few exceptions to be identical with Australian species.

Glass Works in Australia.—A glass manufactory is being established in Melbourne, under the management of Mr. Nixon, a practical glass-worker. The buildings which are to be erected will be of a temporary character, but if the new industry is successful, their place will be taken by a more substantial structure. The appliances at the command of the manufacturer will enable him to melt and convert into glass 350 pounds of "metal," as it is technically termed, thrice a week, but this quantity can if necessary be easily doubled. At first, five hands will be employed.

Inducement to Plant Trees along Country Roads.—If a farmer plants a row of trees along the road in Wisconsin, he is exempted from working on the road. A similar law is in force since last winter in California, providing that the tree planter shall receive $1 for every tree planted along the public road, fronting on his own land, and thriving five years after planting.

Victorian Machinery for India.—The municipal corporation of Bombay have ordered six of Chambers' hydraulic stone-breaking machines, for the purpose of breaking stone for the roads of the municipality. It is satisfactory to the communities, as well as the inventor, says *Dicker's Journal*, to learn that Melbourne is exporting machinery to India.

Mining Summary.

THE following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

[OUR summary this week is unusually small, owing in great part to the "demoralization" of the interior press; but we will *Grant* them excusable this time, and hope that they will *Say-more* in the future about our mining progress.]

CALIFORNIA.

Alpine County.

Markleeville *Union*, Oct. 31st: The Pittsburg mill is pounding away on I. X. L. ore and will probably exhibit the bullion result from first run next week.

Butte County.

We clip the following from the Butte County paper: A handsome gold nugget, thickly veined, and nearly one-half covered with gold, was found in the Lincoln tunnel, Butte County, about 110 feet back in the drift, 2,500 feet below the top of the hill, and 800 feet above the bed of the Big Butte Creek. It contained about five lbs. of gold, worth $18 per ounce, and its value was about $1,080.

Calaveras County.

The *Chronicle* of Nov. 7th gives the following sensible and valuable remarks on mining: The only occupation in which men appear to engage without the least preparation or forethought is mining. The opinion is universally prevalent that this, our most important branch of industry, does not require the exercise of judgment or the possession of any business qualification whatever, to ensure a person to become a successful miner. "Trust to luck" is the motto, and leaving all in the hands of the fickle goddess, men embark blindly in mining speculations and enterprises, without any regard to the location of the claims they are purchasing or assisting to prospect, and with no practical knowledge of the business in which they are engaging. In early times, when every gulch contained gold, and all that was necessary to constitute a successful miner was to know how to handle a pick and shovel, and the possession of energy enough to induce men to use them, combined with sufficient discrimination between gold and mica, perhaps this loose way of prospecting was as good as any other. But times have changed greatly within the past few years. Placer diggings are among the things that were, and gravel mining is confined to hydraulic and tunnel claims, which require, as a general thing, years of labor and the expenditure of a large amount of capital to develop them. Miners, as a class, are poor, and unable to meet the heavy expenses incurred in operations of this character, and, as a natural sequence, their attention has been attracted to the more feasible and less costly task of prospecting the numerous quartz leads which traverse the State in every direction. While we cannot help admiring the spirit, energy and perseverance which have been exhibited by all classes of our citizens in the prosecution of this branch of mining, we think that bad judgment has been shown in the application of the money expended, and a lamentable lack of system displayed in the direction of the labor performed upon quartz leads in this vicinity. Too many companies have been formed, and the range of operations has been too extended. Prospecting, in order to be effective, must be thorough. One good paying claim would do more to give our mines standing and character than fifty half-prospected, undeveloped ledges, no matter how promising they may appear to their owners. That we have as rich quartz lodes in this district as can be found in the State, we sincerely believe; but the fact has yet to be satisfactorily demonstrated.

Nevada County.

Transcript, Nov. 4th: The Bavarian ledge, located on Rush Creek, and owned by Peter Coon, is one of the richest specimen ledges in this locality. A candle box full of specimens literally flaked with gold, has been taken out, and nearly a ton of first grade rock is ready for crushing.

Nov. 7th: The mines of Nevada County promise a first rate yield with a favorable winter. The quartz miners about Eureka and South Fork are highly encouraged by the results from prospecting during the summer, and many of the claims have been yielding good returns. In Meadow Lake, the Mohawk and Montreal, and several other mines are yielding good rock, have improved machinery, and the owners are delighted with their prospect. Grass Valley and Nevada mines are paying well, and our people look to them as certain and permanent sources of profit. During the past two years much attention has been given to hydraulic mining, large amounts have been invested by capitalists, and the results have so far been highly satisfactory. On the ridge the Red Rock Tunnel Co. have succeeded after years of labor and expense in opening an extensive range of rich ground. At Chalk Bluff, the Caseades, and other points, considerable prospecting has been done, and those engaged are confident of speedy and excellent compensation in the yield of their claims. On the Little York ridge, the property formerly owned by Jos. Gardner is in the hands of an energetic company, and they will do a large amount of work. In the lower part of the county, Squirrel Creek has been located and two companies organized for the purpose of working it. The North Bloomfield Gravel Mining Co. are employing a large force in building the new ditch, and as they own extensive claims in that locality and have a large capital at command will do much towards the development of mineral resources.

Grass Valley *National*, Nov. 7th: The Gold Hill mill has all the work which its 20 stamps can perform. Rock from the extension of the Dromedary is now being crushed. The rock looks finely, shows free gold in abundance, and is very rich in sulphurets. Sixty or seventy loads from a part of the North Star, which is let on contract, is awaiting its turn. Rock from this place has heretofore yielded $50 per ton.

EXCELSIOR.—Truckee *Tribune*, Nov. 7th: The Mohawk and Montreal Co's mill at Meadow Lake, cleaned up last week $10,000. Himes & Co. cleaned up 200 ounces of amalgam from 64 tons of rock crushed. The mines are said to present a very favorable appearance.

Grass Valley *Union*, Nov. 8th: Yesterday the owners of the Coe mine were paying off their debts, and on Monday the mill will again start up. The rock they are taking out looks to be rich enough to pay from $35 to $40 per ton. The short stop of the mill has been taken advantage of to put everything in the best possible order for saving gold.

Placer County.

Auburn *Herald*, Nov. 7th: John Gillard, who has been erecting a new quartz mill on the Mammoth quartz ledge, a few miles above Wells, on Dry Creek, has got it completed, and started it to work on Wednesday last.

The 20-stamp mill now being erected by McCarty & Co., on the Green Emigrant mine, will be completed and running within the next three weeks.

The San Mateo *Gazette*, says: A couple of miners at Willow Spring Hill, Placer Co., recently washed up the sum of $5,400.

Sierra County.

Downieville *Messenger*, Nov. 7th: The Orleans Co's tunnel at Little Grizzly is 1,800 feet in the bedrock. The pay channel is 1,000 feet in from daylight. Only a month ago two or three ounce pieces were taken out. Last fall this mine paid exceedingly well. At present, from $7 to $8 to the hand is obtained. This mine is a genuine blue lead. Twelve men are working at present. A contract has been given for 200 cords of wood for hoisting purposes.

The Chip's Flat correspondent writes: Considerable wood-chopping is being done here at present for milling purposes. A short distance below Chip's we saw a tunnel half blocked up in front and partially filled with water. We were told that this was a very lengthy tunnel. The American tunnel and mill machinery is still unworked, as has been the case for years.

The Mammoth Co's gravel claim is situated near Chip's. The tunnel here is 2,000 feet in length; hight, six feet below the caps. Drifting is at present being done. Seven men are now working. In two weeks twelve men will be employed. In about a week a breast will be finished at present end of the tunnel sufficiently large for two shifts of six men each to work. Present pay is not large, but better returns are expected.

The Oak Flat Co's mine is situated about one mile west from Chip's on the south shore of Kanaka. Length of lower tunnel 1,500 feet on the ledge; upper tunnel, one thousand feet on the ledge. A shaft runs down from the surface for 225 feet. This mine prospects well, the ore paying from $30 to $40 per ton. Width of ledge averages from four to five feet. Arrangements are being made to build a mill.

We collected a few items at Chip's concerning American Hill. Good rock has lately been struck in the Von Humboldt mine, where the ledge is five or six feet wide and prospects well. Two men have been working here this summer. This mine is very well opened, and a mill will be built in the spring.

Bixby's diggings are paying from $4 to $5 per day.

We next visited the Live Yankee Co's gravel claim, at Balsam Flat. Length of tunnel, 1,400 feet; average hight, seven feet. Future prospects of this mine are good.

ARIZONA.

Prescott *Miner*, Oct. 24th: Henry W. Fleury has purchased the Lamson mill, It is his intention to fit it up and run it as a custom mill. He is also negotiating with Jas. Grant for the Eureka 10-stamp mill in same district.

Rico's pack train passed through town Thursday last, bound for the Sterling mill, with sulphuret ore from the Galena mine in Big Bug district.

The tunnel in the Chase mine is now in 190 ft. The rock is hard and water plenty.

COLORADO.

Georgetown *Miner*, Oct. 22d: Huepeden, Wolters & Co. shipped on Monday last, to H. Amy & Co., New York, 702 ozs. of silver bullion, coin value $701.50.

The shaft on the Elijah Hise lode is now 82 ft. deep, with 10 inches of galena and gangue in the bottom.

Mr. Watson has struck a vein of ore in the discovery on the Coin lode, which is said to be chloride of silver. It carries native silver in abundance.

The Emmet lode, on Sherman Mountain is developing finely. At a depth of 32 feet they have a 10-inch vein of solid galena, free from zinc blende.

Prominent among the lodes worked by the Hewett G. & S. M. Co., is the Cortez, situated on the eastern slope of Republican Mountain. It has been sunk to the depth of 35 ft. The wall rocks are well defined, and the ore vein consisting of sulphurets of silver and argentiferous galena, is about six inches wide in the bottom of the shaft. The ore is quite rich assaying from $289 to $830 per ton.

Ball & Mason, at Empire, are running the Knickerbocker mill for the Disbro Bros. on the Conqueror lode, with good results. Their average yield so far, is $225 per cord, coin value. Robert Steel & Co. have started up their Chilian mills at North Empire, and are running on surface ore from the California lode.

Wm. Crossley cleaned up from his arastra last week, and his retort amounted to about $200, coin value.

Cooley & Haskins are running their mill on ore from the Big Gun lode, and have a result of $125 to the cord.

Williams, Jefferds & Co. have commenced repairing the Liebig mill to receive the furnaces and amalgamators that are now on the way from the east. They expect to be in full operation at both the Peck and Liebig mills before the first of December.

DACOTAH.

Georgetown (Col.) *Miner*, Oct. 22d: A gentleman just returned from the Sweetwater mines gives the following concerning the mines: At South Pass City, Tosler & Eddy have erected a six-stamp mill for custom work. The ores are brought there from mines five miles distant, and the results so far are as follows, viz.: Ore from the Miners' Delight lode, averages $85 per ton, coin value. Corrisa lode gives ore from shaft 15 feet deep that averages $21 per ton. The ore from the Young America lode for 38 feet, the present depth of shaft, has given an average of $60 to the ton. These, with the Atlantic and Carriboo, are the principal lodes of the Sweetwater district. The Atlantic has the deepest shaft of any there, being 70 feet in depth, showing a crevice of 12 feet in width. The material from these lodes is all of a similar character, being a smoky quartz, carrying free gold.

IDAHO.

Lewiston *Journal*, Oct. 10th: On French Creek, east of Pierce City, there are four or five companies at work and doing well. New discoveries have been made on Quartz Creek; several companies are now at work there with a fair prospect of doing well. The miners on the new diggings on Cow Creek are opening their claims and preparing for winter. On Gold Creek preparations for winter and opening claims is going forward with energy.

At Last Chance Gulch, the same operations are going on.

The diggings about Pierce City are still worked with vigor.

Oct. 24th: It is reported that the new mining district, to the north and east of Pierce City, known as Moose Creek, is extraordinary rich and extensive. It is believed that this new camp will eclipse any that has been found within the last ten years, and will furnish ground enough for 1,000 or more men to work. The prospects average on the hills, ten to twelve cents to the pan, and in the gulches from 15 to 25 cents to the pan, which warrants the belief that this new camp will exceed Florence and equal California in '49. Water is abundant, and little or no stripping, and the gravel from five to six feet deep. Nearly all from Pierce City and thereabouts have gone there, and parties and pack trains are daily leaving. There can be no doubt of the truth of this exciting news. Mr. Loewenburg has dust from there that will assay at least $17 per ounce.

Owyhee *Avalanche*, Oct. 31st: The main shaft in the Rising Star mine is now down 185 feet, yielding splendid ruby silver ore, and plenty of it. The south drift is now in 300 feet from the main shaft and shows the lode to be as large and rich as ever.

The engine house, ore house and other buildings at the Oro Fino are now completed. Everything is in tip-top shape, so that the storms of winter will not hinder the working of the mine. Rich ore continues to be taken out, and it is thought an extensive and good paying chimney has been found.

The Golden Chariot Co. have struck richer ore than ever, south of the main shaft. The mine is in splendid shape for working, and will yield millions within the next twelve months.

Repairs are rapidly progressing on the Lincoln mill, and it will be ready in a few days to commence turning out again some more of those $22,000 bricks.

Boise *World*, Oct. 31st: The editor has been on a tour through the Boise Basin, and gives the result of his observation as follows: Along on the brow of the hill across from Placerville, and down on either side of the road to the creek, a good deal of preparatory work has been performed, in the way of reservoirs and small ditches for free water, telegraphs for hydraulics, etc. Every indication is presented that the claim owners expect a prosperous ensuing season, and are resolved to make the most of it. Indeed, about Placerville are to be found the richest diggings perhaps in the Basin, and the finest gold is taken from claims in that section—some that will assay from $17 to above $18 per ounce. On the hill we alluded to above, just across from the camp, the pay is good from surface to bedrock, for a depth of from 10 to nearly 100 feet. But for lack of water to work these claims properly, it is rarely that more than a few weeks' mining can be performed in any one season.

A gentleman who just returned from the newly-discovered mines in the Kootenai country, writes to the Lewiston *Journal* as follows: The old Kooteuai camp has some few very valuable mines yet—but principally in the hands of Chinamen. Five or six days before my departure a very rich mining district was discovered, which is called Perry Creek. The mines are situated in a westerly direction from the old Kootenai camp, on a tributary of St. Mary's River. The gold in appearance is coarse and very similar to that of the old camp. Three men after a rather unsuccessful prospecting trip, struck this district in returning to Kootenai, and panned out in three days without any tools but a prospecting pan $225. In returning to the old camp the sight of this prospect raised a great excitement, and in the course of a few hours, the next morning everybody who were able to procure a canyse started out for the new discovery; so in a few hours after the news got to camp, only about a dozen men were left in the old district. Inside of 24 hours most of the men came back with prospects varying from two cents to several dollars to the pan, taken from the top dirt.

NEVADA.

Humboldt.

Unionville *Register*, Oct. 31st: The new mill of Stewart & Co. is progressing finely and will be in complete running order in about 15 days.

The ledge in the Arizona mine is well defined, and varies in width from four to six feet between the upper and lower tunnels, while the ore is regularly distributed through the vein and improves in quality as depth is gained. It has been predicted that the ore would become more refractory in the lower works, but such is not the case so far as yet ascertained, and we apprehend but little fear need be entertained of rebellious ores taking the place of that now found in the mine, and which is being so readily treated in the mills. That this ledge will be permanent and lasting in its supply of pay ore there can now be no doubt, as the developments already made show it to be of sufficient strength to hold its own in any formation that may be encountered or met with in its course downward.

Nov. 7th: The Arizona Extension boys have increased the force on their mine, and are now extracting from eight to ten tons of ore per day. The ledge is from three to

five feet wide and the ore of superior quality. At present the ore is hoisted by a windlass through a shaft 90 ft. deep, but in a few days a whim will be erected and horse power brought into requisition. Some 40 or 50 tons of ore are now on their dump, which will average $150 per ton.

G. W. Holt will have his mill running by the 15th inst. He has contracted to crush 1,000 tons of ore from the Golconda mine. This mine is growing better every day, and can furnish enough ore to supply half a dozen stamp mills.

By a private note received from H. H. McColly, of Quin's river, we learn that very promising placer gold mines have been struck in Quin's River Valley. No particulars.

Fall & Co. shipped this week, per Wells, Fargo & Co's express, 3,000 ounces of fine bullion.

Reese River.

Austin *Reveille*, Oct. 31st: During the week ending this date, the Manhattan mill of this city produced 27,484 ozs. of bullion.

Nov. 2d: Wells, Fargo & Co. shipped from their office in this city during the month of Oct. 269 bars of bullion, weighing 20,383 lbs., and valued at $341,663.95. Of this amount, $159,221.94 were shipped by John A. Paxton & Co., and $101,308.83 by the First National Bank.

On Saturday five bars of bullion, of the average fineness of .983, and valued at $7,013.07, were brought to the assay office of David Lundbom in this city from the Monte Cristo mill at White Pine.

Nov. 5th: We learned last evening that the 10-stamp mill in the Northumberland district, which was built under the superintendence of Mr. T. F. White for the Northumberland Co., was completed and running, and that its first product of silver bars would shortly be brought into this city.

Virginia *Enterprise*, Nov. 4th: Quite a number of White Pipers were in town yesterday. All with whom we conversed spoke very highly of the mines. They talk as glibly of $20,000 ore as we do in this vicinity of $50 rock. Thus far the weather has been very favorable in that region.

A gentleman who resides in Gold Hill, and who lately returned from White Pine, tells a by no means flattering tale of the new Silverado. He says that there are but two or three mines in the whole region that appear to him likely to prove lasting. The other strikes of which we hear so much are, he says, but large bunches of ore, separate from any thing like a vein, and surrounded on all sides by hard limestone—they run in no particular direction and have no walls, dip, or any other of the characteristics of a mineral vein. His idea is that the greater part of the so called mines now being worked are mere nodules of ore that have formed in cavities in the limestone. He advises his friends to stay away from White Pine.

The Gold Hill *News* says: John Church, formerly State Printer, is now in the district of White Pine. He has been prospecting around the country for several weeks, and has struck a big thing at last. He, together with others, has found a ledge, deposit, nodule, body, or other congregation of silver, which prospects splendidly. Mr. Sylvester a day or two since showed us some pieces of ore from the claim which was recently sent to them by Church himself. These specimens had been subjected to the roasting process, and showed a richer and more numerous amount of fine little globules of silver bullion than we ever before saw in pieces of the size.

Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.

Virginia *Enterprise*, Nov. 6th: During the month of October, Wells, Fargo & Co's shipments of bullion from this city amounted to $585,317.45, and from their office in Gold Hill $263,730.61.

Nov. 10th: Though the village surrounding the Gould & Curry mill is almost deserted, below will be found a smaller mill, belonging to that company, working what is called "slime"—which consists of the sediment of the water running away from the mill battery. This "slime" assays from $18 to $20 per ton, and the assay value of this deposit belonging to the Gould & Curry Co. is in the neighborhood, we understand, of $150,000. The working of this necessarily gives employment to quite a number of persons, for the oftener this "slime" is shoveled, and the more it is exposed to the atmosphere, the greater becomes the yield. After much shoveling and exposure to the air this "slime" will yield about 80 per cent. of its assay value. Below this "slime" mill of the Gould & Curry are several small mills employed in working "tailings," which yield a living business, if not good profits. In leaving the mills the road passes on over a sage brush plain which, as you enter upon it, presents to the gaze many boulders. A little further on, however, the boulders disappear, and the soil, though sandy, gives evidence of ability of rewarding the husbandman with an abundant harvest. Thousands of acres present themselves to view with a surface as level as the eye could wish to see. Water and the requisite labor are all that is wanted to make this desert bloom, and it is believed that the water could be obtained by the sinking of wells and pumping by windmill process. But we pass over this magnificent waste, and after a short drive reach Dayton. As we enter the town from the north, the large mill formerly belonging to the Empire Co., but now owned by the Combination Mill Co., is thundering away upon the ores of the Comstock.

Statistical Items.

Utah claims a population of 80,000.

There are 90,000 mowers and reapers annually made in the United States.

The slate pencil factory near Heath's Ferry, Vermont, turns out 100,000 pencils per day.

The highest inhabited place on the globe is Ancomara, Peru, which is 16,000 feet above the sea.

The zinc works at Potosi, Washington County, Mo., are turning out 1,200 to 1,400 pounds of zinc per day.

The entire product of the Lake Superior copper mines from 1845 to the end of 1867 was 100,000 tons. The product of 1867 was 11,735 tons.

There are fifty-eight oil refineries in Pittsburg and neighborhood, which employ 700 operatives, whose wages amount to $500,000 per annum.

According to statistical returns from India, it appears that in 1866, in the Presidency of Madras alone, there were 1,899 deaths from bites of serpents.

The average yield of wheat per acre in thirty-two States east of the Rocky Mountains last year, was 11.17 bushels, and the average price $2.23. Connecticut furnishes the largest average per acre, 17.5; South Carolina the least, 6.4.

A late *Quarterly Review* estimates the population of the world at 1,350,200,000. Of these 195,000,000 are Roman Catholics, 96,000,000 are Protestants, leaving more than ten hundred and fifty millions of pagans and Mohammedans.

Gas Generating Apparatus.—A curious machine has been invented for generating gas, which is cheap, simple and durable. It consists of a cylindrical vat or tub, which is filled with pumice stone. Over the latter is poured gasoline, which consists of a compound of the most volatile portions of petroleum oil. The inflammable material is poured over the stone until the latter ceases to absorb the gasoline, when the surplus liquor is drawn off through the means of a faucet at the lower end of the vat. Above the vat is placed an air chamber in which bellows, operated by machinery propelled by a spring like clock-work, are placed. The bellows force air through an india rubber tube into the vat where it comes into contact with the generated gas and forces it through pipes to the burners. The light produced is steady and brilliant; and in point of economy, we are told that it far exceeds anything in use. As soon as the gasoline escapes or evaporates from the pumice stone, the latter is again saturated, and so on for any length of time. The safety of the apparatus for burning gasoline is a very strong recommendation in favor of its general adoption.

From Oakland to San Pablo.—For months past the stages running between this city and San Pablo, have been crowded with passengers, a correct indication of the amount of work being done in that portion of the country between this city and San Pablo. Land is being continually subdivided, and farms are becoming smaller. As a consequence the population is greater and there is more prosperity.—*Oakland News.*

Cotton Culture in Tulare Valley.—Fine cotton is grown on the lands of Jack & Kincaid, Tulare County. Forty-eight bales have been shipped, this year's being the third crop. In the opinion of competent judges it will compare favorably with Tennessee or Mississippi upland cotton. There are, no doubt, large tracts of land in various parts of the State, eminently adapted to the production of this staple, and its cultivation can but prove a source of profit.

Engineering.

What is "Engineering?"—"The term engineering properly includes within its scope every department in which the inventive and constructive powers of man are employed to ameliorate the condition of the race; whether it be in the manufacture of the engine that furnishes the motive power of factory or car or steamer, the structure of the pavement under his feet, or the laying of the pipes and mains that supply his dwelling with gas or water."—*American Artisan, Oct. 7th.*

Hydraulic Pipe Engineering.—On the north side of Wood's Creek, Tuolumne County, Messrs. P. J. Walsh, and J. R. Watkins, water-pipe contractors, have laid a hydraulic pipe in accordance with a survey made by R. M. Wilson, U. S. Deputy Surveyor of Mineral District, No. 8, which descends the slope of the mountain, a distance of 4,800 feet, with a depression of 800 feet, passes under the bed of that creek, and up the mountain on the south side a distance of four thousand feet, with an elevation of five hundred feet to the point of discharge. The perpendicular pressure sustained by the pipe at the lowest point is 684 feet. It is guaranteed to carry 300 inches of water with safety at one time, and it has been tested sufficiently to know that it has a still greater capacity. It is supplied with self-adjusting air valves, and lies under the tremendous pressure of water within it, without even a tremor or vibration in any portion of the whole line. The pipe is made of sheet iron, and is eleven inches in diameter. The inlet is 200 feet higher than the outlet, giving that amount of pressure to the column of water passing through the pipe.

The Land Surveyors are still busy in mapping and plotting surveys for private parties. Many of these are in considerable tracts lying in Tulare Valley, and in the southern counties. In mine surveying the extension of the mineral land Act to gravel mines, has increased somewhat the labors of the Deputy U. S. Surveyors of the several districts.

California and Oregon Boundary Survey.—The Yreka *Journal* of Oct. 30th has the annexed:

We learn a few items in reference to the California and Oregon boundary survey, through E. W. Potter, who has just returned from his trip to see if anything had happened to County Collector Ream, in coming from Surprise Valley. He met the surveying party at Lost River, where they were camped awaiting assistance from Fort Klamath to get their wagon out of Lost River, which was upset and lodged in the stream where it is about 25 or 30 feet deep. The surveying party consists of eight men, aided by seven soldiers, under charge of Daniel A. Major, U. S. Astronomer and Surveyor, with John J. Major as Assistant. The party expected to get their wagon out in a day or two, and in ten days calculated to get as far as Cole's Mountain House on the Siskiyou Mountain. The initial point at the intersection of the Oregon, Idaho and Nevada lines, is just 12 miles north of Fort Bidwell, which locates all of Surprise Valley in California. The altitude of Surprise Valley is 4,680 feet, and it was the intention of the surveyor to take the altitude at different points but for the breaking of his barometer. From the initial point to Tule Lake the distance is 69 miles, and to the natural bridge on Lost River about 10 miles further. The line is about half a south of the natural bridge, and leaves inside of California nearly all of Tule Lake, all of Clear Lake and half of Goose Lake. The surveyor had no idea where the exact line would run at Klamath Lake, but believed it would bring a large portion of Little Klamath Lake in California.

Col. Gowan, the American who raised the ships sunk at Sebastopol, is to make an attempt on the Spanish galleons which the Dutch and English fleets sent to the bottom of Vigo Bay, somewhere about 1702.

The Pacific Dredging Company have recently ordered from New York two of Morris & Cummings' patent dredges. They will cost about $35,000 each, and are expected to arrive in about two months.

Enterprises and Developments.

A Yankee drives an omnibus over the new macadamized road from Jaffa to Jerusalem.

Extensive horse-breeding farms have been established at the Cape of Good Hope for the supply of horses to India.

The ramie nettle planters in the East think they can prepare the fiber at a cost of two cents a pound, and sell it for one dollar.

A Northern capitalist is purchasing all the locust trees in the vicinity of Lynchburg, Va., to supply ship-builders in Europe.

"The Enterprise."—A splendid new steamer, owned by the farmers along the Upper Sacramento, is making regular trips up and down the river.

The Atlantic cable is earning at the rate of $2,000,000 per annum in gold, equal to $2,900,000 in greenbacks, or at the rate of about fifty per cent. per annum on its cost.

Trade in Old Horseshoes.—It is stated that a new trade has been opened up by the Chinese in Australia, who are buying up worn out horseshoes for export to China, where they are eagerly purchased by the gun manufacturers.

Beet Sugar.—An experienced sugar refiner of New York is about to establish a beet sugar factory in Buena Vista county, Iowa. The machinery is to come from France at a cost of $100,000. Five thousand acres of land to grow the beets have been purchased.

Logging and Lumbering at Puget Sound.—There are over eighty logging camps on Puget Sound, employing over 1,000 men and seven steamboats constantly, besides an occasional raft by others, in towing logs to the mills, as is the case with three camps on Mudd Bay, which log for the Port Madison mills, while others are rafted to the mill without towage.

The black walnut is a rarity in California, but a fine grove of an indigenous species, including trees a hundred feet high and five feet thick in the trunk, in Foss Valley, Napa County, has lately attracted some attention. On Walnut Creek, there are a number of the same kind of trees. They are valuable for their nuts, and wood, and are beautiful shade trees, but grow only in moist soil.

A vast deposit of pure chloride of potassium has been discovered in a salt mine in Hungary, and a similar deposit has been worked for about five years in Prussia. Layers of chloride of potassium exist in connection with most inland basin salt deposits, and doubtless also in those of the interior of Nevada, Utah and Arizona; but labor is so much cheaper in Prussia, and the deposits there are so extensive, that the mining of it in this country to supply the world with the variety of chemical products obtained in connection with the chlorides, could not pay for many years to come. Iodine, bromine, and other valuable chemicals are won as side products.

Our Lime.—Though limestone is extensively interstratified in the Tertiary and Cretaceous rocks of the horizontal lying formation at the western margin of the Sierra Nevada, the lime which supplies San Francisco and the greater part of the State, comes from Santa Cruz. Three large schooners, the Adrianna, the Alfred Adams, and the Fanny Gilmor, are regularly employed in bringing lime from Santa Cruz, their capacity being 2,500 barrels each, and the vessels making four round trips per month. A few transient schooners are also engaged. From 120,000 to 130,000 barrels are landed here annually. San Francisco is the distributing point of the article for all this part of the country; and it is also exported, mainly to the Sandwich Islands, the lime made of coal there being of an inferior quality. The Santa Cruz lime is unquestionably equal to the best in the world. None that has ever been imported here can compare with it. The ledges occur in the coast range of hills, a few miles back of Santa Cruz, and the quality of the rock, which is very abundant, varies, as is the case with all vein mining. A face of the rock is obtained in the side hill, which is steadily worked against. That locality is particularly adapted to the business, owing to the extensive redwood forests in the vicinity for burning. The old fashioned "draw" kilns are principally used at Santa Cruz, in preference to the "perpetual" kilns, where the fires are kept up for several consecutive months. The hair used in making mortar is also brought from that vicinity, where a number of tanneries are in operation.

MINING AND SCIENTIFIC PRESS.

W. B. EWER,.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

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Our Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

Dr. L. G. Yates is our duly authorized traveling agent. July 6, 1867.

Mr. A. B. Butler is a duly authorized traveling agent and correspondent for this paper. July 15, 1867.

Resident Agents.

HELENA, Montana.—R. F. May.
BLACK HAWK, C. T.—Harper M. Orahood.
CENTRAL CITY, C. T.—Messrs. Richards & Crane, of the City Book Store, Main street, will act as our agents.
GEORGETOWN, C. T.—John A. Lafferty, Postmaster, is our agent in this place.
DENVER CITY, C. T.—Messrs. Woolworth & Moffat, are our agents for this place.
CHEYENNE, D. T.—Mr. Robert Beers is our authorized agent for this place.
OMAHA, N. T.—Messrs. Barkalow & Brothers, are our agents for this place.

San Francisco:
Saturday Morning, Nov. 14, 1868.

Notices to Correspondents.

G. R. W., Grizzly Flat, El Dorado County. We are uot aware that there is any legal standard bushel in this State, that has been defined as such by statutatory enactment. The legality of such a measure in such case, therefore, depends upon custom. The measures of capacity in customary use iu the United States, have been derived from England, which had many local standards, the most celebrated and most usually adopted, being the Winchester bushel, which very nearly approximates to the Imperial measnre as fixed hy act of parliament. This Imperial bushel is fixed at 1,109.104 cubic inches. The apothecaries or wine measure, seems to have been adopted in the United States, of which the gallon contains only 231 cubic inches, consequently the bushel would only cousist of 924 cubic iuches. The wine measure was used in England only in veuding wine, oil, and other expensive or foreign liquids; the Winchester measure for beer, milk, and home productions, and all dry goods that were uot of a textile character, such as seeds, grain, etc., and charcoal, would he measured hy a similar standard. Now, however, all are sold by the Imperial standard gallon of 277.276 cubic iuches, wherever measure in place of weight is employed for the purpose alluded to, he the snbstance either liquid or solid. Respecting the rule of weigbts for selling charcoal, we cannot give you any information.

WOOSTER, Santa Clara.—The best mode of case-hardening iron will depend in a great measure upon the fiueness or coarseness of the work needed, and also whether the matter to he accomplished is to he regardless of expeuse, or economy is a desideratum. If the first, no mode has yet heen found superior to that employed by gunmakers in tempering patent breeches. This is done by placing the breech, surrounded by powdered hones, in an iron hox, and heatiug it red hot for souetime. This is sometimes done with prussiate of potash iu place of boncs. For larger matters, the best method is to cover the matter to he case-hardened with a coating of plumbago, and after bcing well dried; plunging the article into some molten cast iron until the molten iron will freely flow from the article on being withdrawn from the melted metal.

SEWERAGE.—Dr. A. B. Stont has published, in pamphlet form, his admirable paper on "Hygeine, as regards the Sewerage of San Francisco," printed originally iu the *California Medical Gazette*.

THERE are thirty millions of hearing vines in California, with a capacity of fifteen millions of gallous of wine and one million gallons of brandy, which at the lowest cstimate represents a yearly value of $8,000,000.

REDPATH is to visit Salt Lake and write of the Mormons.

Chemical and Metallurgical Establishments.

THE GOLDEN CITY CHEMICAL WORKS.

These works are located near the corner of Brannan and Eighth streets, and are quite extensive, being devoted specially to the manufacture of sulphuric, nitric and hydrochloric acids. H. P. Wakelee is the superintendeut, and one of the leading proprietors. Space and facilities are afforded here for the manufacture of much more of these products than the market at present demands, though an eye to the future will not fail to jnstify the extent of the preparations for our thriving industries. Liebig says the quantity of sulphuric acid used in a community indicates truly the general development of other industries in their midst. How true this is can hardly he conceived without some knowledge of the extent and manner iu which sulphuric acid enters into nearly every hranch of technological chemistry and manufacturing.

The process of manufacturing the common acids is very simple. It is in questions of economy concerning the details that the manufacturer must exercise his skill. Sulphurous acid (SO^2) is obtained hy burning sulphnr iu air, and this is changed to sulphuric acid (SO^3, containing an additional equivalent of oxygen) by mixing the SO^2 with fumes of nitric acid (NO^5), which readily give off one equivalent of its oxygen to the snlphurons acid. Enormous lead chambers are used to condense hoth the sulphuric and the nitric acids, and the latter, heing more volatile, is condensed last, and so separated and used over and over again. By boiling in glass hottles the acid is afterwards concentrated to 66 deg. Baumé. Platinum vessels are not found necessary to make the products required for this market.

Nitric acid is made by retortiug Chili saltpetre, or nitrate of soda, with sulphuric acid iu a horizoutal cylindrical retort, lined with brick to preveut the fumes from attacking the iron ; these are led over into a series of stone jars containiug water, and are there condensed. Purification and concentration are effected by repeating the process—by distillatiou, as there are now no solids iu the case. In making nitric acid, the uitrogen iu the nitrate of soda leaves that suhstance and joins the oxygen of the sulphuric acid, making NO^5, while the soda and sulphur remain behind in the retort, also combining, and making sulphate of soda or glaubers salts. This is stacked in a shed, and part of it is used to make sal soda hy hurning sawdust with it, which carries away the sulphur and leaves carbon in its place—being carbonate of soda.

Hydrochloric or muriatic acid ("salt acid") is made like nitric acid, only that common salt (chloride of sodium) is used instead of the Chili saltpetre, the remnant in the retort heing likewise sulphate of soda, while the suhlimated chlorine is led into water jars, and there combined with the hydrogen of the water, making H Cl.

All the acids as used are dissolved in water, aud their strength is the proportion of pnre acid to water. It is tested by the hydrometer, iudicating the specific gravity of the fluid, and the resnlt is expressed according to a scale inveuted by Baumé,

An acid factory is generally a very dilapidated looking establishment, iu consequence of the dcstructive effects of escaping gases. The Golden City Works appear to be exceedingly well arranged, having been huilt by an Englishman,—Mr. Robertson, of Newcastle, if we remember correctly,—and the management is in the hands of Mr. John Cairns, who is evidently a master of the business. The laboratory is in the charge of Mr. Howden.

Not having had the fortune to meet Mr. Wakelee, the Superintendent, we are unable to furnish, at the present time, any correct figures as tc tho size aud capacity of the works, aud the manner iu which their acids are chiefly disposed of after they are manufactured.

THE LEAD AND SILVER SMELTING WORKS AT NORTH BEACH.

An interesting visit to this place we find from want of time and space it will be more convenieut to defer giving an account of till next week. Prof. Thomas Price, the manager, is one of the most energetic of men, and it requires but a glance through the works to convince any one initiated that he is by no means a hunglr. The location of the works is judicious, as the slag and refuse products can be dumped into the sea to make dry land, instead of incurring the usually necessary expense of wheeling off rapidly accumulating matter to a considerable distance iu order to get it out of the way. Another evidence of the probable speedy success and growth into importauce of these works is the sonndness of the basis on which they are operating; attempting to treat only such ores as can be worked under preseut circumstances with economical results—the lead and antimonial ores and products from the interior, of which there is a two years' working supply on hand—leaving cupriferous and refractory auriferous ores to be sent to Swansea, either in the form of concentrated raw material, or of matte, as is done from the Colorado smelting works. A great advantage will result to tho entire coast from the success of an efficient first-class metallurgical establishment of this kind in San Francisco, since scores and hundreds of really valuable mines are to-day lying unworked and dead in the stock market, which might be worked to great profit if the metallurgical problem were satisfactorily solved.

COMMERCIAL PRODUCTS FROM SEAWEED. On the English and Irish coasts seaweed is used for manure, for which purpose its chief value consists in having a large proportion of mineral salts,—sometimes 38 per cent. of the dried weed;—in addition to which there is about three per cent. of nitrogen, which is capable of forming ammonia, a valuable fertilizer. Soda, the principal mineral ingredient, is now made from common salt hy Leblanc's method; and the kelp fires in the rocks and reefs would have gone out altogether, hut for the discovery of the red tinged iodine, which is now derived from the same source. Bromine may he ohtained from seaweed, hut a more economical source has heen fonnd in the salt beds of Prussia. Marine sugar or maunite is derived from many kinds of seaweed. From others mucilage may be ohtained which by prolonged hoiling with dilute oil of vitriol has heen made to yield arabia, which constitutes the pnre gummy suhstance of gum arabic. A seaweed gathered on the coast of Ceylon has long heen used in the manufactnre of an edible jelly, and the value to invalids of the demulcent drink made by digesting Irish, or as it is sometimes called, Icelaud moss in water, is well known. The French have used seaweed to make wadding for cannon.

PHYSIOLOGICAL CHEMISTRY is a hranch of chemical science the most difficult and obscnre. The great difficulty depends not so much upon the obscurity which surrounds the natnre of life itself, as the essential character of every description of force; and of the mysterious tie which exists between matter and force,—a question which has baffled the penetration of the profoundest philosophers, and which it is not probable that human intellect will ever be capable of elucidating. The chief difficulty in explaining the phenomena of organic chemistry arises from the extraordinary delicacy of the arrangements hy which the various metamorphoses of the organic kingdom are produced, combined with their complicated character. Other obstacles are also to be found, especially those arising from the great facility with which every organic suhstance, particularly those in the fluid state, undergo changes after the vivifying principle has ceased, the *rationale* of which has eluded all scientific scrutiny.

Antimonial or Hard Lead.

Some hundreds of tons of antimonial lead have been shipped from the works of Mr. Nason, at Oreana, in the Humboldt country, Nevada, by the Pacific Railroad since its completion in Juns last, and are now undergoing the process of "improving" or refining, to get rid of the antimony and what little arsenic there may he in it hy oxidation, at the North Point Smelting Works. Mr. Nason has been in this city for some days past, cugaged in sampling his products for assay. Though he has all the appliances for refining and cupelling at Oreana, and has heretofore heen shipping considerable quantities of hullion obtained hy the regular rontine of lead smelting, he finds since the railroad is completed that he can dispose of his hard lead in this city on advantageous terms at once—simplifying his operations in the vicinity of the mines, at the same time that he avoids having to pay a large extra price for fuel, costing $18 a ton of product in Nevada, to $3 a ton in San Francisco. Meantime the change is fouud equally advantageous to the smelting works in San Francisco.

For his reverheratory lead refining furnaces Mr. Nason has heen using sage hrush, and for his cupola (reducing) furnace, charcoal, which was hurnt in that vicinity. The ores are chiefly white lead—cerusite, or carbonate of lead—a noteworthy fact in the history of ore deposits, by reason of their very extensive occurrence in that country.

PERSONAL.—Mr. R. W. Raymond, Commissioner of Mining Statistics for the Pacific Coast, has arrived in New York.

Prof. Silliman is ou a profcssional tour in Colorado Territory.

Prof. Chas. H. Hitchcock has been appointed State Geologist of New Hampshire. He has already entered upon his labors in the field.

Thomas Dicker, tho founder, and until recently the editor, of *Dicker's Mining Record*, published at Melbourne, Australia, has dissolved his connection with that journal, and is about to open a miuing agency in Loudon.

Gardiner F. Williams and J. E. Davis, have recently returned home from several years' stay at the Mining Academy at Freiberg, Saxony.

Baron vou Koschkul has gone down tho coast.

Mr. Nason, of Oreana, Nev., aud Major Sherman, of White Pine, are in town on business.

J. F. Kidder, C. E., has heen appointed engineer of the Sau Joaquin Valley Railroad.

Wm. B. Treadwell, C. E., one of the engineers of the Central Pacific Railroad, has just arrived from the eastern end of the road, and purposes spending the winter in this city.

A. J. Bowie, M. E., has gone to White Pine.

JOINT STOCK COMPANY MANAGEMENT.—The English joint stock mining companies, whose operatious extend all over the world wherever undoubted wealth is found under the soil, hold stated (quarterly or annual) public meetings, at which as many as possible of the stockholders are expected to attend and to ask questions of the managers, to discuss the prospects and proposed operations of the company in detail, and where the press is desired to be represented, in order that full and satisfactory information may be afforded to all who are interested. The reports of these meetings occupy a large amount of space in the English local and mining journals. The first and most obvious results of such open dealings are, general confidence in the investments, and efficiency in regard to the management.

CONTINENTAL Life Insurance Company, 302 Montgomery street, corner of Pine.

New Publications.

A TREATISE ON STEEL; Comprising its Theory, Metallurgy, Properties, Practical Working, and Use. By H. M. C. Landrin, Jun., Civil Engineer. Translated from the French with notes, by A. A. Fesquet, Chemist and Engineer. With an Appendix on "The Bessemer and Martin Processes for Manufacturing Steel," from the Report of Abram S. Hewitt, United States Commissioner to the Universal Exposition, Paris, 1867.

All who are interested in iron and steel, whether in the way of producing or manufacturing, will find this manual a useful one, for reference as well as for study. Within a few years, advancements of such importance have been made in the production of steel by direct processes, in which large quantities of common malleable iron are transformed by economical wholesale methods into that degree of combination with carbon which we call steel, and which is found so far superior for almost every kind of use to which iron can be put, that a book on the subject supplies a really urgent demand. These iron and steel manipulations are interesting of themselves, in a general way, to all who have ever chanced to have the opportunity to observe such a grandly simple chemico-metallurgical manipulation as the Bessemer process for example.

In this book the author gives in small compass an insight into the whole question of the production of steel, including the selections of the ores or kinds of iron and of the fuel to be employed, and the apparatus and treatment to be preferred. The book enters into the history of the art and explains the various processes and methods long used on the small scale on which only they have been applicable, as well as the new processes of Bessemer, Chenot, Taylor, Uchatius, and others, which contemplate—and the first named one especially practically effects—the manufacture on the large scale necessary for an extensive substitution of steel for iron. The report of Mr. Hewitt, given as an appendix, is valuable as showing the present state of steel industry. For sale by A. Roman & Co.

AMERICAN HOUSES: A Variety of Original Designs for Rural Buildings. Illustrated by twenty-six Colored Engravings, with Descriptive References. By Samuel Sloan, Architect, Author of "The Model Architect," "City and Suburban Architecture," "Constructive Architecture," etc.

This is a collection of sixteen different designs, with perspective views and ground plans, for country dwelling houses, churches, etc., which will be found of value to prospective builders. The descriptions in type are brief and distinct, making it a handy reference book for the selection of a suitable plan or design.

PRESIDENT OF THE STATE UNIVERSITY.—At a meeting of the Board of Regents of the State University, held at their rooms on California street, on Tuesday afternoon, all but one member of the twenty-two being present, Gen. George B. McClellan was elected to fill the office of President, by twelve votes, while the Rev. Horatio Stebbins received five votes, Prof. William Henry, of the Smithsonian Institute, one vote, and F. L. Olmstead, one vote. The names of those who voted for Gen. McClellan were not reported, but it is understood that he was elected strictly by a partisan political vote, the Board being composed as follows: Democrats—Messrs. Haight, Hager, Holden, Fitzgerald, Ryland, Hammond, Archer, Parker, Butterworth, Doyle, Watt, and Moss. Republicans—Messrs. Dwinelle, Stebbins, Felton, Hallidie, and Low. Reed was absent. We have no doubt that Gen McClellan will accept the position.

AN "ADVENTURER IN MINES" writes to the London *Mining Journal:* "The metals are at a paying price for young mines, but old mines get more expensive every year, after 400 yards deep, and very few of them pay after such a great depth. More crosscutting and adit driving ought to be encouraged. This is the true way to discover a mine."



UNITED STATES AND FOREIGN

PATENT AGENCY.

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Letters Patent.

A patent is an open letter, embodying all the language of an inventor or his agent, contained in the specification, without alteration, and is granted to citizens of the United States, or those who have declared their intentions of becoming such, and is signed by the Secretary of the Interior and the Commissioner of Patents, with the seal of the Patent Office affixed. Its jurisdiction is for the whole United States, for the term of seventeen years.

A patent right is personal property, and is assignable, but cannot be seized and sold on execution.

Caveats.

A caveat is a description of the invention designed to be patented, lodged in the Patent Office before the patent is applied for, and while the inventor is perfecting his design. When *properly* made, it operates as a bar to applications respecting the same invention from any other quarter; but when improperly done, it is inoperative by reason of such defect. The Patent Office always returns a receipt for caveat papers with a copy of the laws governing the same, but does not seek to point out its incorrectness, unless there be some glaring defect.

Our fee for a caveat varies from $10 to $15. The Government fee is $10.

Who Can Obtain Patents.

In the United States persons of either sex, and of any age, may obtain Letters Patent if they are the first and true inventors—and not otherwise. All foreigners (except those of the Provinces of Canada, other than New Brunswick) are entitled to the same rights and privileges as inventors and patentees, as our own citizens.

What Claims can be Patented?

A knowledge of Ancient and Modern Mechanics and familiarity with American and Foreign patent issues and rejections, enables us to determine in a measure in all cases what can be patented, and how much can be claimed as new and novel, and be covered by Letters Patent. This is one of the most difficult questions encountered by both old and new inventors—one in which an experienced counsel is of great service—and yet it can never be positively determined except by presenting a formal application for a patent to the Government, embracing a petition, specification, model, duplicate drawings and payment of the first government fees.

Confidential Advice.

We invite consultation in person or by mail. Communications kept inviolately secret, and honest and reliable advice given. Our permanent business interests guarantee, and the thousands on this coast who have consulted us will testify, to our strict compliance with our obligations to inventors.

Advantages of Our Agency.

Inventors on the Pacific Coast can sign the papers at once, and save at least two months' time in securing patents. When desirable, they can visit and give us personal explanations—better than written instructions.

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From long experience in the business, and an intelligent and thorough understanding of the objects and peculiar characteristics of California inventions, we are able to present cases more intelligently to the Examiners at Washington than *any other agents.*

We guarantee inventors against losing their cases by delay, or the loss of their money in remitting.

Patents for inventors on this coast are finally secured cheaper through our agency than any other, however flattering may be the inducements offered at the commencement by others.

Extensive practice gives us great facilities, securing regularity in the transaction of our business, which extends to EVERY COUNTRY IN THE WORLD where patent laws exist.

Information for Inventors,

Printed in circular form, containing list of Government and other fees, sent free.

We draw up legal assignments for patentees; record assignments in the Patent Office; procure copies of United States and foreign patents; make examinations here and at Washington regarding the patentability of inventions; take up and prosecute rejected cases, depending upon success for our fees; reissues taken out; interferences prosecuted—in fact, every legitimate branch of the patent agency business is thoroughly conducted by us here and our branch agency in Washington.

California inventors should beware of placing their inventions and money in the hands of persons not well known as honest, responsible and capable.

DEWEY & CO.,

414 Clay street, below Sansome, San Francisco.

A. T. DEWEY. W. D. EWER.

NOTICE.—Persons interested in locating Mineral Lands in California or Nevada, will do well to observe the advertisement of N. Wescoatt, S. & M. E., in another column.

POSTMASTERS are requested to punctually inform us of the removal of subscribers of the PRESS from their locality, or of neglect to take the paper out of the office from any cause—when the subscriber omits that duty himself. It is not our intention to send this journal to any party longer than it is desired. If we inadvertently do so, subscribers and others will please inform us.

SAVE YOUR TEETH.—Drs. Jessup & Beers, over Tucker's Jewelry store, are now making a specialty of filling the fangs of dead Teeth, and building up broken crowns with *pure gold*—thus restoring them to their original usefulness and beauty. They are also using Nitrous Oxide for the painless extraction of Teeth, when so desired—the only absolutely safe anæsthetic ever discovered. In breathing it, it acts as a gentle stimulant, without undue excitement,—the sensation produced being truly delightful, the effect upon the lungs healthful, and in its results positively free from all danger. Prepared and administered daily at the Dental Rooms of Messrs. JESSUP & BEERS, corner Montgomery and Sutter streets, San Francisco. 16v16tf

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will heal
old sores, piles,
ulcers, cancers,
salt rheum, and breaking out on any part of the
body, and also removes pain
of every name or nature instantly. It is a harmless liquid, and leaves
no smart or stain, and is called Moore's
Pain Paint. For catarrh and colds in the
head, Moore's catarrh remedy affords a safe,
sure and speedy cure. Both remedies sold
by druggists everywhere, and at Moore's
office, 539 California street, northeast
corner of Kearny, where all pain
is instantly removed, free
of cost, as hundreds can
now testify from actual tests.
8v17-3m

OCCIDENTAL

Insurance Company,

OF SAN FRANCISCO.

Cash Capital, - - - - - - $300,000

GOLD COIN.

Office S. W. corner of Montgomery and California streets.

Fire and Marine Insurance.

All Losses paid in U. S. Gold Coin.

CHR. CHRISTIANSEN, President.

B. ROTHSCHILD, Secretary 20v17-3m

Builders' Insurance Company—OFFICE IN THE BUILDING OF THE CALIFORNIA SAVINGS BANK, California street, one door from Sansome street.

☞FIRE AND MARINE INSURANCE. 10v14l9pqr

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Rolling Mill and Forge Co.,

SAN FRANCISCO, CAL.

Established for the Manufacture of

RAILROAD AND OTHER IRON

—AND—

Every Variety of Shafting,

Embracing ALL SIZES of

Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames

—ALSO—

HAMMERED IRON

Of every description and size.

☞ Orders addressed to PACIFIC ROLLING MILL and FORGE CO., Post Office, San Francisco, Cal., will receive prompt attention.

☞ The highest price paid for Scrap Iron. 9v14l3m9p

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THE EXCELSIOR PATENT FORCE PUMP

Together with Patterns, Stock on hand, and Business Agencies, established throughout this State and Oregon, paying a good profit. Sold on account of departure.

Apply to J. W. BRITTAN,

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Matthew Hale Smith's New Book.

This is the most popular work ever introduced on the Pacific Coast. It outsells every other publication. Agents report from 60 to 150 subscribers per week. If you wish to know how fortunes are made and lost in a day; how shrewd men are ruined in Wall street; how countrymen are swindled by sharpers; how ministers and merchants are black-mailed; how gambling houses and lotteries are conducted, read SUNSHINE AND SHADOW IN NEW YORK, and learn about New York bankers, merchants, brokers, editors, police, military, detectives, gift swindlers, pickpockets, etc., with biographical sketches of all the prominent men in the great metropolis.

Agents desiring territory for this rapidly selling book should apply immediately to E. J. TRUMBULL & CO.,

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THE CELEBRATED

IMITATION GOLD

$15. Hunting Watches. $20



CASES OF THE COLLINS METAL (IMPROVED ONOIDE)



Special Notice.—Our superior Oroide Watches having recently been imitated, and worthless watches sold in New York, Boston, Chicago, and other cities, represented as our watches, we hereby caution the public against them, and give notice that we are in no way responsible for these bogus concerns, and only those purchasing directly from us can secure a genuine Watch of our manufacture. We have recently greatly improved our Oroide in appearance and durability, and, to protect the public from imposition hereafter, have named it the "COLLINS METAL," and we give notice that any one making use of this name will be prosecuted to the extent of the law.

This metal has all the brilliancy and durability of gold; cannot be distinguished from it by the best judges; retains its color till worn out, and is equal to gold excepting in intrinsic value. All our Gentlemen's Watches are *Full Jeweled Patent Levers;* those for Ladies an improved Escapement, better than a lever for a small Watch; all in Hunting Cases, and fully guaranteed by special certificate. The $15 Watches are equal in neatness, style of finish, general appearance, and for time, to a gold one costing $150. Those for $20 are of *extra* fine finish, and are fully equal to a Gold Watch costing $200. Chains of every style, from $2 to $6. Also, Jewelry of the Collins Metal in every style.

To Clubs, where six Watches are ordered at one time, we send ONE EXTRA free of charge. All our prices are in Currency.

Goods sent to any part of the United States by express, to be paid for on delivery. Money need not be sent with the order, as bills can be paid when goods are taken from the express office. Customers must pay all express charges. We employ no agents; orders must therefore be sent directly to us. Customers in the city will remember that our *only Office* is,

Nos. 37 and 39 Nassau street, New York,

Opposite the Post Office, (up stairs.)

C. E. COLLINS & CO.

Citizens of Toronto and the Dominion generally, take notice. We have hundreds of testimonials. But you need no further evidence than the following from one who is well known among you. Here is his proof positive.

Harry Hazleton, the well known author, says:

"I have always looked upon cheap watches as humbugs, and dealers in them as little better than swindlers. At the request of a friend, I have worn for three months, the watch he purchased of C. E. Collins, and for which he paid $15. It keeps accurate time, retains its perfect golden appearance, and I can really see no difference between it and my own, which cost five times the amount of the Collins Watch."

Mr. Hazelton adds:

"I have since purchased FIVE of these watches, at the request of friends, and those for whom they were intended are perfectly satisfied. Others are seeking for them, and I fancy that Mr. C. will find some difficulty in supplying the constantly increasing demand."

☞The regular price of the watch is $15, and others costing $20. These are superbly finished, and really superior to any article placed upon the market, costing five times that sum.

Office State Capital Reporter, 42 and 44 J street, Sacramento, Cal., July 15, 1868:

C. E. COLLINS & Co.—Gentlemen:—Wells, Fargo & Co. delivered Watch and Chain, as per order, paid bill on presentation. The Watch and Chain give entire satisfaction, and several of my friends wish the same quality of watch and chain. One is chief editor of this paper, and two others are the publishers of this paper, and the others are for friends of mine, and by wearing your goods will make you a large sale in this city. I therefore wish you to send me seven watches and seven chains, of same quality as those you sent me, price paid you $15 for watch, and $6 currency for chain. I return you the guarantee, it may assist you in ascertaining the exact kind of goods sent me, the number of the watch sent is 66,982. If this order sent turns out as satisfactory as the first, we will give you a good editorial notice, and help you along as far as practicable. I send this order not for my benefit, but for yours and to accommodate my friends. Send to E. K. Phipps, office of "State Capital Reporter, Sacramento, California."

Yours, respectfully,

E. K. PHIPPS.

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C. E. COLLINS & CO.,

37 and 39 Nassau street, New York.

20v17eow3m

Machinists and Foundries.

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Golden State Iron Works,

Nos. 19, 21, 23 and 25 First Street,
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MANUFACTURE ALL KINDS OF

MACHINERY,

STEAM ENGINES AND QUARTZ MILLS

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Self-Adjusting Piston Packing,

Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

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NEW GRINDER AND AMALGAMATOR

HEPBURN & PETERSON'S

AMALGAMATOR AND SEPARATOR,

Knox's Amalgamators,

WITH PALMER'S PATENT STEAM CHEST,

Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continual working.

Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10qy-tf

IRA P. RANKIN. A. P. BRAYTON. A. C. AUSTIN.

Pacific Iron Works.

First and Fremont Streets,
SAN FRANCISCO.

Having been established since 1851, we have accumulated a very large variety of Gear and other Patterns, which, with our superior tools and appliances, give us facilities for doing first class work unequaled on the Pacific Coast.

Among other things, we manufacture the following:

STEAM ENGINES,

Horizontal and Vertical, for either Stationary or Marine use.

BOILERS—High and Low Pressure,

Pump, Pipe and Sheet Iron Work of every kind.

Quartz Mill Work,

Including High and Low Mortars, for wet or dry crushing; Furnace Irons for Roasting Ores; Freiberg Barrels; Varney's and Wheeler's Amalgamating Pans and Settlers; Stamp Shoes and Dies of best White Iron; Russia Iron Screens, etc., etc.

Flour Mill, Saw Mill and Sugar Mill Work in every variety; Pumping and Hoisting Machinery; Hausbrow's Patent Challenge Pump, for Domestic, Ship and Mining use—the most approved and successful Pump manufactured.

Castings of every description, Iron and Brass.

We would call especial attention to "Wright's Patent Variable Cut-off Engines," of which we are the sole manufacturers on the Pacific Coast, under license from the Woodruff & Beach Co., Hartford, Ct. As a simple, effective, FUEL SAVING, first-class Engine, this is, without doubt, the best Engine made in the United States.

Orders promptly attended to. Prices as low as possible for first class work, and we intend to do no other.

GODDARD & CO.

San Francisco, May 1, 1868. 18v16tf

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PORTLAND, OREGON.

Steam Engines, Boilers,

SAW AND GRIST MILLS,

MINING MACHINERY, WROUGHT IRON SHUTTER WORK, AND BLACKSMITHING IN GENERAL.

Corner North-Front and E streets,

18v13-1y One block north of Couch's Wharf.

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MANUFACTURERS OF

Quartz, Saw and Grist Mill Irons, Steam Engines, Horse Powers,

High and Low Pressure Steam Engines, Steamboats and Propellers, made at short notice.

13v13tf

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HAWKINS & CANTRELL,

MACHINE WORKS,

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Manufacturers of STEAM ENGINES and all kinds of Mill and Mining Machinery. N. B.—Jobbing and Repairing done with dispatch. 10v17 3m

To Foundrymen and Blacksmiths.

LUMP LEHIGH AND CUMBERLAND COAL, IN ANY quantity, sacked and shipped to any part of the country, by JAS. R. DOYLE, Coal Dealer,
413 and 415 Pacific street,
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Miners' Foundry

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MACHINE WORKS

Nos. 245 to 255 First Street,

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HOWLAND, ANGELL & CO.,

PROPRIETORS,

Manufacturers of Machinery for

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SAW MILLS, SUGAR MILLS,
POWDER MILLS, PAPER MILLS

Steam Engines of all Kinds.
Amalgamators of all Kinds.

MINING PUMPS, HOISTING WORKS
OIL WELL TOOLS, ROCK BREAKERS,

—AND—

Machinery and Castings of all kinds, either of Iron or Brass.

Boilers and Sheet Iron Work in all its Branches.

Shoes and Dies of White Iron, manufactured for and imported by us expressly for this purpose, and will last 25 per cent. longer than any other made on this coast.

Russia Iron Screens, of any degree of fineness. We are the only manufacturers on this coast of the

HICKS ENGINE,

The most compact, simple in construction, and durable, of any Engine in use.

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Quartz, Flour and Saw Mills,

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BOILER MAKERS

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Howard st, between Fremont and Beale, San Francisco.

Flue or Tubular **Boilers**, with plain circular or spiral courses. Upright Flue or Tubular Boilers, Locomotive and and Marine Boilers, and Wrought Iron Tanks of every description.

Hydraulic Pipe supplied at reasonable rates. In ordering, give the quantity of water to be supplied, hight of the fall, and total length of pipe, so as to enable the firm to determine the diameter of the pipe and thickness of iron to be used.

Repairs.—Boilers, Smoke Stacks, Pipes, etc., put in repair with promptness.

To Boiler Makers and Machinists in the Interior.—The firm is prepared to furnish estimates of Boilers, supply new heads, drilled and punched, and attend to the selection and forwarding of Iron for Boilers, Pipes and other purposes.

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WILLIAMS, ROOT & NEILSON,

MANUFACTURERS OF

CROSS' PATENT BOILER FEEDER,

STEAM ENGINES, BOILERS,

And all kinds of Mining Machinery.

Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.

Dunbar's Patent Self-Adjusting Steam Piston

PACKING, for new and old Cylinders, manufactured to order.

Front Street, between N and O streets,

14v11 SACRAMENTO CITY

The Risdon Iron & Locomotive Works.

Incorporated, April 30, 1868. Capital, $1,400,000.

Location of Works, Corner Beale and Howard streets, SAN FRANCISCO.

Successors to Pacific Mail S. S. Co. Works at Benicia. Coffey & Risdon, and Devoe, Dinsmore & Co., San Francisco.

Steam Engine Builders, Boiler Makers,

MACHINISTS AND FOUNDRYMEN.

All work in their line attended to with promptness and dispatch. DIRECTORS—S. F. Butterworth, Lloyd Tevis, Jas. Pollock, sen. Holladay, Chas. E. McLane, John N. Risdon, Joseph Moore, John N. Risdon, President; Joseph Moore, Vice President and Superintendent; Chas. E. McLane, Treasurer; Lewis R. Mead, Secretary; Lewis Coffey, Superintendent Boiler Works. 8v17 qy

THOMPSON BROTHERS,

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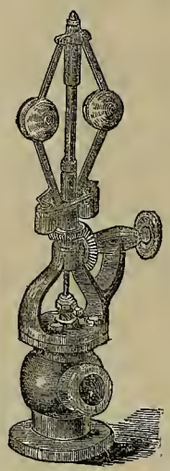
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NOS. 109 and 111 MISSION STREET,
Between Main and Spear.



New and second-hand

Engines and Boilers,

FOR SALE.

Also one first-class Hoisting Engine; one Upright Engine, of entirely new pattern.

MANUFACTURER OF

Lathes, Drills,

And MILL MACHINERY of every description.

PRACY'S

New and Improved

STEAM ENGINE

REGULATORS,

The best and cheapest yet invented—manufactured and for sale. Parties are invited to examine it in practical operation.

F. A. HUNTINGTON'S

Shingle Machines

on hand.

Particular attention paid to Repairing.

☞ All work guaranteed to be done in a first-class manner, and at the lowest rates. 12v17tf

Phœnix Iron Works.



JONATHAN KITTREDGE, Proprietor,

Nos. 18 and 20 Fremont street, near Market,

MANUFACTURER OF

Fire-Proof Doors, Shutters,

Wrought Iron Girders, and all kinds of Housesmith work, Bridge and Prison Work;

BANK VAULTS AND MONITOR SAFES,

FORGING AND MACHINE WORK.

Agency for the ISHAM KEY REGISTER BANK AND SAFE LOCK, the only first class Lock in the United States 1v17tf

J. NEWSHAM. J. BIGWOOD.

SOUTH BEACH IRON WORKS,

Near corner of King and Third streets, San Francisco.

MARINE ENGINES,

AND ALL KINDS OF

MACHINERY FORGING.

All kinds of Ship-smithing and Mill work manufactured to order. Jobbing of every description promptly attended to. All work done guaranteed. 13v14-1y

CALIFORNIA BRASS FOUNDRY.

No. 125 First street, opposite Minna,
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ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

☞ PRICES MODERATE. ☜

J. P. CALLAGHER. J. H. WEED V. KINOWELL.
9v13-1y



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COPPERSMITH,

226 Fremont st., bet. Howard & Folsom

All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to. 13v11

SULPHURETS;

What they are;
How Assayed;
How Concentrated;
And How Worked;

With a Chapter on the

BLOW-PIPE ASSAY OF MINERALS.

By WM. BARSTOW, M. D.

Published by A. Roman & Co., San Francisco.

For sale at this Office.—Price, One Dollar.

With the aid of this Book, the miner can assay his own ores, requiring but few materials, etc., except such as are generally to be found in the interior towns. 2v15tf

REGISTER YOUR LETTERS containing money addressed to us, or we will not be responsible. Remittances by Express must be in packages, prepaid. When practicable, it is best to remit by draft, or order, on some San Francisco bank or firm.

EXTRAORDINARY GOLD YIELD.—We gave, recently, a portion of a letter to the London *Mining Journal* from the new gold fields in New Zealand. The same paper for Oct. 3d has another from the same pen, which gives, from a private letter, some extraordinary figures in reference to the Hauraki, or Thames Gold Field. The writer says: "The newspapers will tell you what we have done during the last fortnight, so that I need only add that this claim (Hunt's) turned out over 5,000 ounces of melted gold as the result of four days' crushing; and, on the whole, the second weeks' work shows no falling off. The Panama steamer, leaving Auckland on August 3d, will take about 10,000 ounces from this claim alone, to be forwarded to the Union Bank, in London, and this the result of twelve days' crushing. Of course, we cannot expect to keep up this amazing yield, but even if it should be reduced to 1,500 ounces a week, that will allow of a satisfactory dividend. The price of the Thames gold is low, in consequence of the admixture of silver, so that about 2*l.* 16*s.* an ounce is all we get at present. The machinery, kiln, furnaces, and shops have cost a round sum of money, but they are all paid for. It is probable we shall be obliged to work only four stampers for want of water to drive more. The steam engine is of 20-horse-power, and takes a great deal of water. We must deepen the well, and if that does not suffice, erect a water-race for two miles from a neighboring creek. Fifty hands are constantly employed at high wages. Hitherto everything has gone on smoothly."

DISCOVERY OF COAL ON THE HUMBOLDT. We were shown by Judge Carter one day this week, says the Humboldt *Register* of October 17th, some samples of coal taken from the outcrop of what appears to be an extensive coal field, situated about eight miles from the Humboldt River and below Gravelly Ford. The samples in Judge Carter's possession burned very freely, giving out the unmistakable bituminous smoke and odor, and in appearance resembled exactly the coal found to the east of Salt Lake along the line of the Union Pacific Railroad. The coal basin is said to be several miles in extent, and its discovery at this time seems almost providential. Its proximity to the railroad in a part of the country where fuel of any kind could not be obtained without a long reach of transportation, will be of incalculable advantage to the railroad company, and will insure for the fortunate discovers a fortune of no mean proportions. The *Register* having been presented with a quarter section of coal land, we go up in a day or two to make an examination of the premises.

"SAFETY" EXPLOSIVES.—Dr. Nisser makes two compositions, non-explosive while apart, and sifts them together when required for use. The powders, therefore, can be stored and transported with perfect safety. The ingredients of one composition, are mainly chlorate of potash and niter; the other is composed of sulphur, woody fiber, and some cheap carbonaceous materials. When sifted together a powder results, which, from experiments made in Cornwall on some of the hardest granites, seems to possess about four times the strength of ordinary blasting powder, and costs rather less than blasting powder.

COST OF RAILWAY SLEEPERS.—We have over 40,000 miles of railway in this country. The average life of a railway sleeper is seven years. There are 2,112 to a mile. The average cost is 50 cents each. Thus our sleepers are costing us $150 a mile every year for each of the 40,000 miles in the Union. The sleepers on the English roads last on an average fourteen years, and when properly treated with preserving substances they last for a century.—*J. B. Lyman.*

PAPER BOXES.—A machine has been invented in Albany, N. Y., which makes paper boxes directly from the pulp. The latter is poured into a vat, passes through two pipes, and is shaped on four "formers" into perfect boxes. These are then passed through a steam dryer, and made ready for finishing and coloring, which is also done by machinery. This machine, worked by six men, turns out 12,000 boxes per day.

SUGAR BLEACHED BY ELECTRICITY.—The Loodon *Times* quotes from *Travelers' Circular* that one of Wilde's magneto-electric machines had been set up in a sugar refinery with the object of bleaching sugar by means of a powerful stream of electricity. The machine is no doubt employed to ozonize a large volume of air which is forced through the syrup, the ozone acting as the bleaching agent.

The Last Half Century the Greatest.

The following is part of a racy article in the *Spectator:*

"Few phenomena are more remarkable than the degree in which—the progress of mankind in those contrivances which promote the comfort of daily life—has been concentrated in the last half century. It is not too much to say that in these respects more has been done in our own lifetime than in all the previous lifetime of the race. It is in the matters of light, locomotion, and communication that the progress effected in this generation contrasts most surprisingly with the aggregate of the progress effected in all generations put together since the earliest dawn of authentic history. The lamps and torches which illuminated Belshazzar's feast were probably as brilliant, and framed out of nearly the same materials, as those which shone upon the splendid fetes of Versailles, when Maria Antoinette presided over them, or those of the Tuileries during the Imperial magnificence of the First Napoleon. Pine wood, oil, and perhaps wax, lighted the banquet halls of the wealthiest nobles, alike in the eighteenth century before Christ and in the eighteenth century after Christ. There was little difference, except in finish of workmanship and elegance of design, between the lamps used in the days of the Pyramids, the days of the Coliseum, and the days of Kensington Palace. Fifty years ago, we burnt the same articles, and got about the same amount of light from them, as we did five thousand years ago. Now, we use gas, of which each burner is equal to fifteen or twenty candles; and when we wish for more can have recourse to the electric light or analagous inventions, which are fifty fold more brilliant.

The same thing may be said of locomotion. Nimrod and Noah traveled just in the same way, and just at the same rate, as Thomas Assheton Smith and Mr. Coke of Norfolk. The chariots of the Olympic Games went just as fast as the chariots that conveyed our nobles to the Derby, "in our hot youth, when George the Third was King." When Abraham wanted to send a message to Lot, he dispatched a man on horseback, who galloped twelve miles an hour. When our fathers wanted to send a message to their nephews, they could do no better. But the progress in the means of communication is the most remarkable of all. In this respect, Mr. Pitt was no better off than Pericles of Agamemnon. If Ruth had wished to write to Naomi, or David to send a word of love to Jonathan when he was a hundred miles away, they could not possibly have done it under twelve hours. Nor could we to our friends thirty years ago. In 1868 the humblest citizen of Great Britain can send such a message, not a hundred miles, but a thousand, in twelve minutes."

MANUFACTORIES IN GREAT BRITAIN.—England still maintains her supremacy as an exporting nation, yet there are indications of a great depression in several departments of industry. In Germany and Belgium labor is cheap, machinery plentiful, and capital has recently directed itself in an eminent degree to manufacture. Hence, over 1867, there is a decided decrease in the British exports of carpets, druggets, and cloths, while '67 shows a falling off from the preceding year. Meanwhile, the money value of these exports decreased nearly six millions of dollars in gold. Linen shows an extensive falling off; so likewise, haberdashery, apparel, and machinery. The exporting beer trade indicates a loss of nearly a million over last year. In coals, tin, copper, and iron there were large exportations in both crude and manufactured materials. Nevertheless, the London *Times* remarks that what was gained in quantity was lost in values; all classes of goods exhibiting a depression in rates of sale. The loss of England is, however, the gain of other nationalties. All the populations along the Baltic Sea are enriched from the increase of their manufactories. In the United States, despite the heavy internal tax, industrial pursuits indicate a steady increase.

FORTY MILES OF CARS.—The Reading Railroad Company own 16,355 cars of all kinds, and 268 engines. Were these cars and engines all placed in line on their track, commencing at Mt. Carbon, the opposite end of the string would reach to Exeter station, a distance of forty miles.—*Penn. paper.*

GEO. E. ROGERS,
(Successor to G. W. Bell.)
ASSAYER,
512 California st., San Francisco.
J. A. MARS, Assayer.
Ores carefully Assayed. Gold and Silver Ores worked.
23v16-qrlpur

Business Cards.

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Mining & Scientific Press

RODGERS, MEYER & CO.,
COMMISSION MERCHANTS,
ADVANCES MADE
On all kinds of Ores, and particular attention
PAID TO
CONSIGNMENTS OF GOODS.
4v16 3m

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N. GRAY & CO.,
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641 Sacramento St., cor. Webb, San Francisco.
☞Sole Agents for Barstow's Metallic Burial Cases and Caskets.
25v14tf

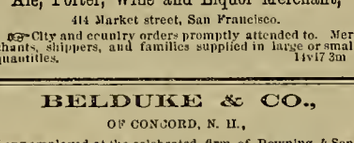
Farmers and Mechanics
BANK OF SAVINGS,
No. 225 Sansome Street.
Interest paid on Deposits. Money Loaned on Real Estate.
H. DUTTON, President.
GEO. M. CONDEE, Cashier. 19v16 3m

FREDERICK MANSELL.
Mechanical & Architectural Draughtsman,
No. 422 California street, corner of Leidsdorff.
Drawings of Models made for parties apply for patents at Washington or London. ar23-tf.

LEA & PERRINS'
Worcestershire Sauce,
For sale by all the
PRINCIPAL JOBBERS AND GROCERS.
13v17-3m

D. C. HALL,
WHOLESALE AND RETAIL
Ale, Porter, Wine and Liquor Merchant,
414 Market street, San Francisco.
☞City and country orders promptly attended to. Merchants, shippers, and families supplied in large or small quantities. 11v17 3m

BELDUKE & CO.,
OF CONCORD, N. H.,
Long employed at the celebrated firm of Downing & Son, have opened a manufactory of



Concord Wagons,
Of all descriptions, at No. 820 and 822 Folsom street, between Fourth and Fifth streets, San Francisco.
Orders received for Buggies, Expresses, and Light and Heavy Thorough-brace. Carriage Springs made to order.
18v15-1am 6m

HENRY CAREY BAIRD,
Industrial Publisher,
No. 406 Walnut Street, Philadelphia.
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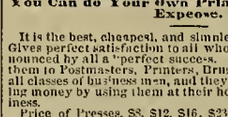


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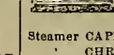
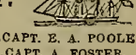
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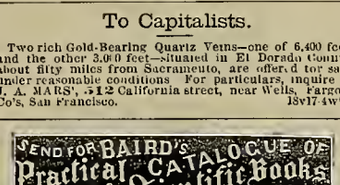
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Our schedule prices for obtaining foreign patents, in all cases, will be as low, or lower, than those of any other agency.

Patent Rejections.

FIRST. Refusals are always made by the Patent Office if there is any informality in the specification, or if it does not contain the entire subject matter of the invention, and is not properly arranged and stamped. A slight omission often proves fatal.

SECOND. If the drawings are defective, and are not executed in an artistic manner in India ink, and on sheets of the required size, they are subject to rejection.

THIRD. Applications are always rejected where the claims conflict with others already patented.

If the rejection should be an unjust one—which sometimes happens—it can generally be reversed, and the patent obtained by contesting the case.

For the prosecution of such cases, obtaining references, making arguments, and personally attending to explain the case (through our agent in Washington), *we charge no second fee*, as is the case with some agencies, but attend to the business till finally allowed or twice rejected, without extra charge beyond the Government fee.

Inventors who have rejected cases, prepared either by themselves, or for them by other agents, and desire to ascertain their prospects of success by further efforts, are invited to avail themselves of our unsurpassed facilities in securing favorable results. We have been successful in securing Letters Patent in many such cases. Our terms are very moderate.

Steps Necessary to Procure a Patent.

The first thing required is a model, if your invention can be represented by one. It is not only immediately necessary in preparing the papers, but the law demands that the inventor shall, in all cases, furnish a model, which must not exceed twelve inches in any of its dimensions. A model of less size will answer when more convenient. It should be neatly made, and of hard wood or metal, or both, varnished or painted; the name of the inventor should be engraved or painted on it in a permanent manner.

When the invention consists of an improvement on some known machine, a full working model of the whole will not be necessary. It should be sufficiently perfect, however, to show, with clearness, the nature and operation of the invention.

As soon as the model is ready, it should be carefully boxed and shipped by express, or otherwise, to our address, namely: DEWEY & CO., *Mining and Scientific Press, San Francisco.* Prepay expenses and send express receipt to us by mail.

A full description must also be sent with the model, embodying all the ideas of the inventor respecting the improvement.

Simultaneously with the model, the inventor should send us the first instalment of the Government fee, fifteen dollars. The money may be forwarded either by express with the model, or by mail. The safest way to remit is by draft on San Francisco, payable to our order. Always send a letter with the model, and also the remittance, stating the name and address of the sender. On receipt of the model and Government first fee of $15 in currency, the case is duly registered on our books, and the application proceeded with as fast as possible. When the documents are ready we send them to the inventor by mail, for his examination, signature and affidavit, with a letter of instruction, etc. Our fee for preparing the case is then due and will be called for. The case will then be presented to the Patent Office, and as soon as the patent is ordered to be issued the Government last fee of $20 in currency will be required. The law states that every patent shall be dated as of a day not later than six months after the time at which it was passed and allowed, and notice thereof sent to the applicant or his agent. And if the final fee for such patent be not paid within the said six months, the patent shall be withheld, and the invention therein described shall become public property as against the applicant therefor.

Inventors who do business with us will be notified of the state of their application in the Patent Office, when it is possible for us to do so. We do not require the personal attendance of the inventor, unless it is one of great complication, as the business can be well done by correspondence.

When the inventinn consists of a new article of manufacture, a medicine, or a new composition, samples of the separate ingredients, sufficient to make the experiment, and also of the manufactured article itself must be furnished, with full description of the entire preparation.

The average time required to procure a patent, when the case is conducted at our agency, is ten weeks. We frequently get them through in less time; but in other cases, owing to delay on the part of Government officials, the period is sometimes extended to four or five months, and even more. We make a special point to advance our cases as rapidly as possible.

Candid Reasoning.

A gentleman eminent for his ability in all points pertaining to specifications, gives inventors the following sound advice:

To properly prepare a specification may seem a very simple and easy task, but such is not the case. It requires a knowledge of the arts, of science and scientific terms, and their proper use—of mechanics and the principles that govern their action—of law, and of the grammatical and legal force and construction of language, which is possessed by but very few persons.

Lawyers seldom possess the mechanical knowledge, while mechanics still more generally lack the legal knowledge necessary to enable them to properly prepare a case for examination.

It requires such a *combination* of legal and mechanical knowledge, together with a special knowledge of the principles and rules that govern the action of the office, that no person is really competent to undertake the business but those who *have made it a study, or had experience at it.* In view of these facts I unhesitatingly advise every person who has an invention worth patenting to get some responsible and competent agent to attend to it for him.

No person scarcely would think of entering upon a suit at law without employing a lawyer to attend to it, and make out his papers for him; and if a sensible man would not do that, much less would he attempt to prepare an application for a patent without knowing anything about the business.

I am aware that persons frequently attempt it, but I am also aware that *many lose their patent simply in consequence of not having their case properly prepared, or not knowing how to amend it so as to avoid the references given when once rejected.*

Besides this, many times when they succeed in obtaining the patent, they find afterwards that it will not stand in law, or does not cover their invention, and is therefore useless. It is for this reason that many applicants are compelled to reissue their patents at as great, and often greater expense, than the obtaining of the original.

Hence I repent, every person having an invention worth patenting should employ a competent and responsible agent—I say *competent and responsible,* for, unfortunately, there are many who are neither competent nor responsible.

If worth filing at all, these cases should be prepared with very great care and caution.

One intentor on this Coast, who had filed a caveat by an attorney, was, sometime afterward, surprised to find that his invention, which was a very important one, had been patented and was being brought out by an eastern company with a capital of more than a million of dollars. Upon inquiring at the Patent Office, he was informed that his caveat was inoperative by reason of imperfections and his not having complied with the law in that case as made and provided.

Inventors will oftimes find it very important to take advantage of the caveat system—the expense under the law being comparatively small.

To enable us to prepare caveat papers, we only require a sketch and description of the invention; no model being necessary.

If an inventor publicly uses and sells his invention, prior to making application for a patent, he cannot, afterward, prevent others from doing the same thing; and should any party put the invention into use, before such application for a patent is made, they could continue to use the specific machine or composition of matter after the patent is issued to another. Filing a caveat does not give the right to affix the words, "Patented, or "Patent applied for."

Self-Evident Facts.

Having had large experience, and gratifying success with the great variety of cases emanating on this coast, we feel confident of our abilities to assist inventors in patenting their inventions, saving them from vexations delays, and from receiving worthless papers by reason of imperfect preparation of their claims before being sent to the Patent Office.

The branch of Patent Law is of itself a SPECIALITY of legal jurisprudence; or, as Mr. Phillips, an eminent patent lawyer, justly remarked: "The metaphysics of the law."

In early days but little preparation was needed, or but ordinary skill required to obtain a patent; but now, by reason of the multiplicity of inventions, and the numerous Acts of Congress, found necessary to protect the inventor while the patent lasts, and to do justice to the people after it expires, the utmost care and skill are requisite in managing cases and obtaining a patent that will be of real value to the Patentee, and stand the test of passing through the legal ordeal of an infringement suit.

The general practice of the Patent Office regarding the examination or issue of Letters Patent for inventions has not been materially changed for many years, yet there have been amendments added to the laws of 1861, 1863, and 1866, and which it is necessary for all parties managing an application to be conversant with. Old inventors invariably advise the employment of none but agents of *responsibility* and *experience.* As agents with such qualifications, we solicit honest patronage.

Re-Issues.

When, through "inadvertence, accident, or mistake," an *insufficient* or *defective* patent has been issued, the defects in the Specification and Claims can be cured by a *re-issue.* In order to obtain this, the inventor, or the holders of the patent, must surrender the patent, and file an amended specification and drawings, and a statement specifying the ground for asking for a re-issue. Re-issues are generally applied for after it has been found that the patent could not withstand litigation. It is, therefore, especially desirable that the new Specification and Claims should be prepared with great care and skill. Terms liberal in these cases.

Dangers of Delay.

Situated so remote from the seat of Government, delays are even more dangerous to the inventors of the Pacific coast than to applicants in the Eastern States. Valuable patents may be lost by the extra time consumed in transmitting specifications from Eastern agencies back to this coast for the signature of the inventor, or by reason of return for amendment when addressed directly by the inventor to the Government.

Illustrate your Innentiovs.

Too many ingenious inventors lose the value of their genius and labor by not bringing their improvements conspicuously or plainly enough before the public—the general reading public.

One of the best means—and the cheapest, too—for eliciting attention to a new invention, is that of illustrating and describing it in the columns of the MINING AND SCIENTIFIC PRESS. To do this in the case of a meritorious improvement (and none other will be accepted), will cost our patrons no more than the price of a first-class engraving.

With a cheap representation we will have nothing to do, as it would be calculated to injure both the inventor and ourselves.

We also take especial pains in furnishing engravings and electrotypes of superior merit, of all kinds, at fair rates, and tender our patrons the benefit of our practice and experience, by advice and assistance, in getting up their circulars, advertisements, etc.

To Eastern Inventors.

Our close proximity to Mexico, Australia and the Islands enables us to obtain Letters Patent for you with much less *delay* and expense than they can be secured through any other agency in the United States.

Comparatively few inventors seem to be aware that Melbourne, in Australia, is a city nearly double in size to San Francisco, besides the adjacent colonies of great commercial and mineral importance. Inventions of all kinds, but especially those relating to the saving of gold and silver, if secured in Australia, will often prove of great value. We have competent agents there, and can promise that the business will be attended to with fidelity and dispatch.

DEWEY & CO.,

Patent Solicitors, Mining and Scientific Press Office,
414 Clay Street, below Sansome, San Francisco.

SEPTEMBER, 1868.

ATTENTION.—Virginia City, Aug. 9th, 1868—Dewey & Co., San Francisco.—Gents:

The Patent, enclosing your favor with Inventor's certificate, etc., came duly to hand, and for which please accept my grateful acknowledgements.

I am pleased to learn that the business of your agency for Patents, etc., is rapidly increasing. This is as it should be. Your promptness, fidelity and skill, as Patent Agents, entitle you to public confidence and patronage.

I can see no good reason why Inventors on the Pacific Coast should employ agents in New York and other Eastern cities to transact their business at the Patent Office, when we have among us those equally qualified by long study and large experience.

Yours truly, J. A. C.

WHERE TO ADVERTISE.—The attention of traders and mill machinists is called to the fact that the *Mountain Messenger*, of Downieville, Sierra County, possesses many special advantages as an advertising medium over a majority of the interior press, it being the only public journal published within a radius of sixty miles, in the richest and most populous mining sections of the State. Its weekly edition is double the average of country papers, being without the range of large dailies, and having no competition at home. Its local columns afford many items for our city cotemporaries, while its rates of advertising are reasonably low. 10v17tf

New Mining Advertisements.

Colorado Silver and Copper Mining Company, Arizona Territory.

NOTICE.—The Annual Meeting of Stockholders of the Colorado Silver and Copper Mining Company, of Arizona Territory, will be held at the Company's office, No. 713 Montgomery street, Room No. 40 (3d story), on MONDAY, DECEMBER TWENTY-EIGHTH, 1868, at 3 o'clock, P. M., for the election of Trustees and the transaction of such other business as may properly come before it.

nov14 B. W. MUDGE, Secretary.

Hope Gravel Mining Company. Location of Works and Property: Grass Valley, Nevada County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment (No. 26) levied on the fifth day of October, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No Certificate.	No. Shares.	Amount.
Carman, Wm	319	50	$50 00
Haley, Robert	323	10	10 00
Jordan, A H	342	25	25 00
Jordan, A H	343	25	25 00
Jordan, A H	397	10	10 00
Jordan, A H	398	10	10 00
Jordan, A H	399	5	5 00
Keenan, Wm	232	10	10 00
Kernan, Wm	279	8	8 00

And in accordance with law, and an order of the Board of Trustees, made on the fifth day of October, 1868 so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on the thirtieth day of November, 1868, at the hour of 12 o'clock, noon, of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

DAVID WILDER, Secretary.

Office, No. 28 Merchants' Exchange, south side of California street, between Montgomery and Sansome streets, San Francisco, California. no14

Mount Tenabo Silver Mining Company.—Location of Works: Cortez District, Lander County, State of Nevada.

Notice is hereby given, that the Annual Meeting of the Shareholders of the above named Company will be held at the office of the Company, No. 426 Montgomery street, San Francisco, on THURSDAY, the twenty-sixth day of November, 1868, at 12 o'clock M., for the election of Trustees to serve for the ensuing year, and for the transaction of other business.

CHAS. F. SCHULZE, Secretary pro tem.

Office, 426 Montgomery street, San Francisco. no14

U. S. Grant Mining Company.—Location of Works: Carlisle, Nevada County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the ninth day of November, 1868, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 226 Clay street, San Francisco, Cal. Any stock upon which said assessment shall remain unpaid on the fifteenth day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the second day of January, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

ENOS TAYLOR, Secretary.

Office, No. 226 Clay street, San Francisco. nov14

Mining Notices--Continued.

Cordillera Silver Mining Company, Morelia District, Chihuahua, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixteenth day of October, 1868, an assessment of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at his office, 321 Washington street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eighteenth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the seventh day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

HENRY R. REED, Secretary.

Office, 321 Washington street, San Francisco. oc17

Chipionena Mining Company--District of Ures, Sonora, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixth day of November, 1868, an assessment of two dollars and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, No. 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eleventh day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-eighth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary.

Office, 318 California street, up-stairs, San Francisco. n7

Diamond Copper Mining Company. Location: Rockland District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty eighth day of October, 1868, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 40 Merchants' Exchange Building, California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the tenth (10th) day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty eighth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. A. COOLIDGE, Secretary.

Office, Room No. 40 Merchants' Exchange Building, California street, San Francisco. oc31

Fogus Mill and Mining Company.—Location of Works: Amador County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-third day of October, 1868, an assessment of two dollars and fifty cents ($2,50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at his office in San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-fourth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the twelfth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN J. SCOTCHLER, Secretary.

Office, No. 318 Front street, San Francisco, Cal. oc31

Gold Hill Tunneling Gold and Silver Mining Company.—Location: Gold Hill Mining District, County of Storey, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the ninth day of October, 1868, an assessment (No. 11) of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, R. Wegener, 411 California street, San Francisco, Cal., or to the Superintendent, B. Huguet, Gold Hill, Nevada.

Any stock upon which said assessment shall remain unpaid on the eighteenth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the ninth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. WEGENER, Secretary.

Office, 414 California street, San Francisco oc17

Glenwood Mill and Mining Company, Green-wood, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board Trustees of said Company, held on the tenth day of October, 1868, an assessment of fifty dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 434 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twentieth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the ninth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

WILLIAM VALE, Secretary.

Office, 434 California street, San Francisco. oc17

ASSESSMENT NOTICE.

Notice is hereby given, that an assessment of one dollar per share on the stock of the NEVADA COUNTY COLD MINING COMPANY is due, and payable at the office of the Company, No. 9 Merchants' Exchange, San Francisco, within thirty days from date. Any of the above stock upon which said assessment shall remain unpaid on Saturday, the 19th day of December, 1868, will be sold at public auction, at the office of the Company, as above, at 12 o'clock, noon, in accordance with law and per order of the Board of Trustees.

W. AUG. KNAPP, Secretary.

San Francisco, Oct. 19th, 1868. oc24

Rippon Gold and Silver Mining Company.— Location of Works: Silver Mountain District, Alpine County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifteenth day of October, 1868, an assessment of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 87 Stevenson street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the nineteenth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the eighth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

P. CARROLL, Secretary.

Office, No. 87 Stevenson street, between First and Second streets, San Francisco. oc24

Rattlesnake Gold and Silver Mining Compa-ny, Brown's Valley, Yuba County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirteenth day of October, 1868, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eighteenth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the seventh day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary.

Office, 318 California street, San Francisco, Cal. oc17

Senator Silver Mining Company.—Location of Mine: Storey County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second day of November, 1868, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, 408 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the fourth day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the twenty-fourth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINCARD, Secretary.

Office, 408 California street, San Francisco. oc7

Washington Mining Company.—Location of Works: Nevada County, California.

The regular Annual Meeting of this Company will be held on SATURDAY, the SEVENTH DAY OF NOVEMBER, 1868, at one o'clock P. M., at the office of the Company, No. 318 Front street, San Francisco.

JOHN J. SCOTCHLER, Secretary.

San Francisco, Oct. 10, 1868. oc10

Machinery.

VARNEY'S PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

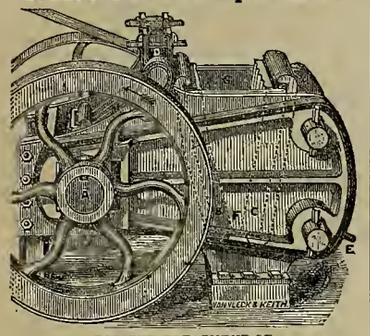
The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Settlers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Millmen are invited to examine these pans and settlers for themselves, at the **PACIFIC FOUNDRY,**

1v1 San Francisco.

Brodie's Patented Improvements



FOR THE TREATMENT OF

Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:

No. 1—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price.....$600

No. 2—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour..... 850

No. 3—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour..... 1,200

These Crushers have been erected at several mines in the State of Nevada, and others in Calaveras, Tuolumne and Mariposa counties, to whom applicants can be referred as being the most efficient, cheapest, and least weight compatible with strength and durability, of any Crusher yet erected.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.

JAMES BRODIE, Fulton Foundry, or
CHARLES RANCLIFF,
Express Building, 402 Montgomery street,
12v13tf San Francisco.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE
—BY—
WM. P. BLAKE,
Corner First and Mission streets, or Box 2,077
3v13f SAN FRANCISCO.

GLASGOW
Iron and Metal Importing Company

Nos. 25 and 27 Fremont street,

SAN FRANCISCO,

Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings, which they offer to the trade on liberal terms.

21v16-3m W. McCRINDLE, Manage.

IMPORTANT TO LUMBERMEN.

ANDERSON'S
Patent Mulay Saw Hangings.

These Mulays will cut FIFTY PER CENT. MORE LUMBER PER DAY than any other Mulay in use, with fifty per cent. less power. They are very durable, and easily kept in order, and warranted to give satisfaction. No Mulay Mill should be without them, as they will pay for themselves in a very short time. No other mode of manufacturing Lumber can compete with the Mulay Saw with this improvement. Send for circular. FULLER & CO.,

Manufacturers' Agents for the Pacific Coast, 109 Montgomery street, San Francisco. 17v17-3m

Removal.

NELSON & DOBLE,

AGENTS FOR

Thomas Firth & Sons' Cast Steel, Files,

Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks,

Stone Cutters', Blacksmiths' and Horse-Shoers' Tools,

Have removed to **13 and 15 Fremont street,** near Market, San Francisco.

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BY MAIL.—The *Mining and Scientific Press* will be sent by mail to any part of the civilized world. In case of removal subscribers have only to inform us of the post office address of the old and new location, and the paper will be sent accordingly.

HYDROSTATIC WORKS.

SAN FRANCISCO
Pump Manufactory
And Patent Water Closets.

M. D. LASSWELL,

No. 747 Mission Street, bet. Third and Fourth.

House Plumbing and Gas Fitting in all of its modes. Lead, Iron and Copper Piping fitted for water, steam and gas. Ship Plumbing, and Ship Pumps made and repaired. Hose of all sizes, Couplings and Nozzles, Roses and Rose Stands, and all kinds of Brass Cocks. Force, Lift and Suction Pumps of all sizes made and set to order.

I am now prepared to make all kinds of Pumps for miners and for irrigating in a large way. I am making four sizes of single acting Brass Pumps, similar to the Haden & Sanders Brass Pumps. I am also making a very superior Pump to any in the market for windmills, single-acting. I am making four different kinds of double acting Force Pumps, and different sizes of each kind. I am also making Artesian Well Pumps of a superior kind. This Pump may be lowered in any well to any depth desired. It is a force pump, or it is a suction pump, or it is a lift pump, and may be worked by hand or windmill, or any kind of power. Can be used for oil wells better than any other, and the Pump is the most durable and easiest repaired of any Pump in the country.

I have invented and am making a superior double-acting Force Pump, called the GOLDEN STATE, which has great advantages over any Pump in this State. It is the easiest Pump repaired, and is the most durable of any Pump in the pump kingdom.

☞ This Pump received the **Silver Medal** and highest premium at the Mechanics' Fair; also the highest premium at the late State Fair. At the San Jose Fair my Hydraulic Force Pump received the First Premium, and four other Pumps each a diploma.

Any one in want of a Pump or anything in my line, will do well by calling at my place before purchasing elsewhere. ☞ I also keep all kinds of DOUGLASS and other makers' Pumps on hand. 11v17-tf

IMPORTANT TO WOOD WORKERS.

GEAR'S COMBINATION PATENT
Variety Molding and Planing MACHINE.

THIS STANDARD MACHINE IS INDISPENSABLE IN any establishment working Wood by machinery. Recent great improvements render it complete for

All kinds of Irregular and Straight Work

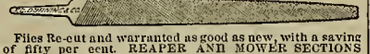
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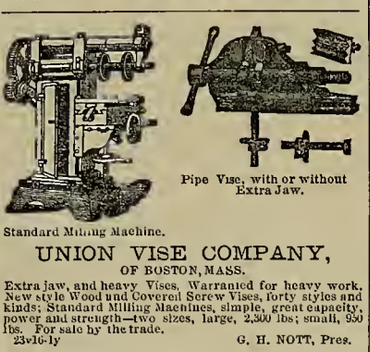
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Geology of the Gold Region of Nova Scotia.

An elaborate report by Dr. T. Sterry Hunt, F.R.S., addressed to Sir W. E. Logan, F.R.S., director of the Geological Survey of Canada, upon the Gold Region of Nova Scotia, has just been printed by order of the local House of Commons. The rocks of this region consist chiefly of slates and quartzites; they are, however, cut in many places by intrusive granites, and in addition to these several small areas of gneissic rocks occur in different parts of the belt, but their true relations to the great mass of strata are not yet clearly made out. Leaving these aside, the rocks which cover the principal part of the area under consideration are, by Mr. Campbell, divided into the quartzite group and a clay-slate group, the latter conformably overlying the quartzites, and the two constituting one gold-bearing series; the total measured thickness of these two divisions is, according to the same authority, nearly two miles; but the gold appears to be chiefly confined to the quartzite and the lower portions of the clay-slate division. The geological age of these rocks is uncertain; although comparatively little altered, they are without fossils, as far as yet known, and are very unlike the fossiliferous Upper Silurian and Devonian rocks met with in other parts of the province; at the same time, the high antiquity of the gold-bearing strata is shown by the fact that the carboniferous system rests upon their upturned edges, and is partly formed from their ruins. The rocks of the gold series are affected by undulatious running east and west, which have raised the strata to high angles, often approaching the vertical. According to Mr. Campbell there are not less than six principal anticlinals exhibited on a transverse line of section, extending from the sea-shore at the southeast entrance to Halifax Harbor, northward to the Renfrew gold district, a distance of about thirty-five miles. The direction of these nearly parallel anticlinals is about east and west; but to the westward they bend toward the south, and to the eastward in like manner disappear beneath the sea, between Cape Canseau and Liscombe Harbor, with a strike, E. 30° S. In addition to the great east and west folds, the gold series is affected by a second series of more gentle undulations, having a north and south direction, and producing transverse anticliuals, on the crowns of which the gold-bearing portions of the series are brought to the surface, while they are concealed not only in the great east and west synclinals, but also in the north and south cynclinals, where these traverse the east and west anticlinals. The total thickness of the series, as already stated, is estimated at about two miles. As far as yet observed, the gold is confined to the quartzite and the lowest portions of the overlying clay-slates. The gold mines of Nova Scotia belongs to the Crown; and the law of May 10, 1864, regulates all questions as to the concession and working. In concluding his report Dr. T. Sterry Hunt remarks that it may well excite surprise that so little mining has yet been done in Nova Scotia, where gold is known to be spread over an area of not less than 6,000 square miles, and where, notwithstanding the want of skill of the early adventurers and the lack of capital, such remarkable results have already been obtained. The lodes in this region, which are very regular in structure, have been shown to preserve their richness to depths of 200 and 300 feet, and from their geological relations there is every reason to believe will continue unchanged to the greatest attainable depths. To this it may be added that the price of labor is moderate, not exceeding $1.25 a day; fuel, both wood and coal cheap and abundant; the region healthful, and easily accessible from abroad. When all these things are taken into consideration, it would appear that no other gold mining region offers such inducements to the introduction of capital and skilled labor, and that these alone are required to make Nova Scotia one of the great gold-producing regions of the world.

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110	9 09	130	77
111	90	131	76⅜
112	89¼	132	75¾
113	88½	133	75⅛
114	87¾	134	74⅝
115	87	135	74
116	86⅛	136	73½
117	85½	137	73
118	84¾	138	72½
119	84	139	72
120	83⅓	140	71½
121	82⅝	141	71
122	82	142	70⅜
123	81⅜	143	69⅞
124	80⅝	144	69⅜
125	80	145	69
126	79⅜	146	68½
127	78¾	147	68
128	78⅛	148	67½
129	77½	149	67

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Power to Collect Rents	0 25
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Receipt for over $20	0 02

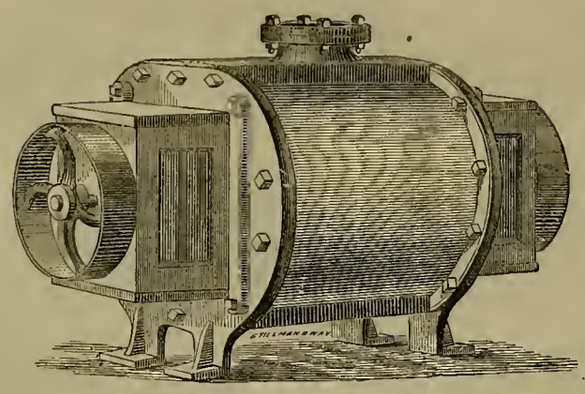
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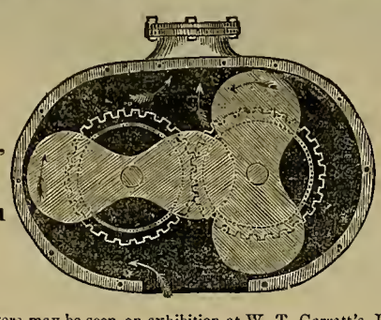
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No. 284.—Bog iron ore—hydrated oxide—from Sulphur Springs, Summit Valley, near the Pacific Railroad. Thomas McGee.

No. 285.—Galena, with a thick coating of red oxide of lead—minium, cystalline; from the Marguerita Mine, Arizona. Prof. Price.

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No. 287.—Wood tin, from Durango, Mexico. Mr. Bennett, of Santa Clara.

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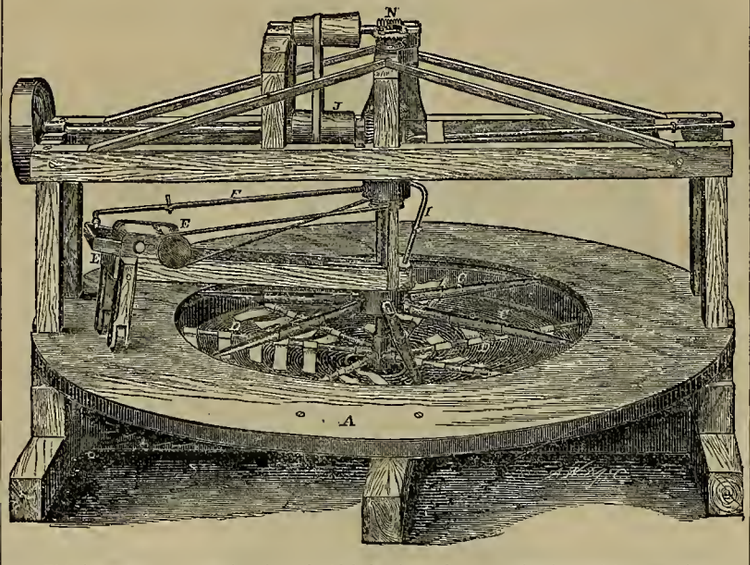
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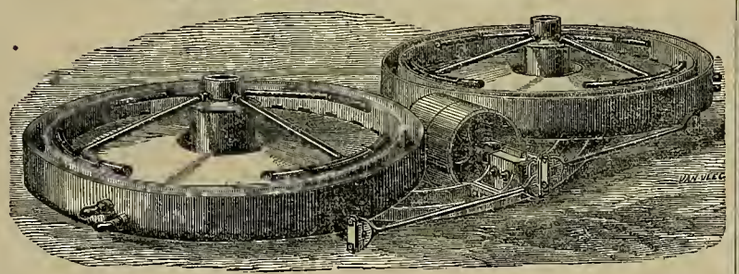
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SAN FRANCISCO, October 19th, 1868.

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OFFICE OF THE ONEIDA MINING COMPANY, Jackson, May 13th 1868

MR. MORGAN HUNGERFORD—*Dear Sir:*—In regard to the four Hungerford Concentrators that I bought of Messrs. Goss & Lambard last month, I will say that I put them up in the Oncida Mill soon after I arrived here, and find that they save sulphurets well and clean, and work to my entire satisfaction. I have tried many other concentrators, but these stand up and work better than any others I have used. I have ordered Messrs. Goss & Lamburd to make eight more for me as soon as possible. Very truly yours, JAMES MORGAN.

BIG OAK FLAT, May 25th, 1868.—*Mr. T. W. Mulford*—Dear Sir:—I have used two of M. Hungerford's Concentrators in the Rattlesnake Quartz Mill, at this place, and find that they work full as well as they are represented to do. E. M. SMITH, Supt.

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Very truly yours, LEE D. CRAIG.

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BY DEWEY & CO., Patent Solicitors. SAN FRANCISCO, SATURDAY, NOVEMBER 21, 1868. VOLUME XVII. Number 21.

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About the Pacific Railroad—The Builders and the Country.

The great event of the year in our field,—the building of the Pacific Railroad across Nevada,—demands attention from us, which we bestow with great satisfaction. Everybody has learned, by frequent reports in the newspapers, what force of white men and Chinamen the great railroad column from the Pacific is composed of; how great a pressure there has been to get the iron and other constructing material pushed on to the front as fast as it was required; how many miles east of Sacramento or of Reno, or some undefined geographical locality the terminus of the road was located at last accounts, under a certain rate of progress per day, if and provided the governing circumstances at the time did not disjoint things; and at what time next year Messrs. Crocker and Durant should strike hands, if they did not give each other the cold shoulder entirely. in Brigham Young's country, and run along to Missouri and to California respectively, from mere impetus or excitement in the great work. But where the oft-repeated names of railroad towns are to be located in our mental geography—how far east so many miles from Sacramento would be, and what kind of a country it is that we shall find presently opened up to our astonished view—there appeared to be no means of definitely ascertaining. The accompanying map, with the table of stations and distances made use of by the officers and employés of the Central Pacific Railroad Co. are furnished with the hope that our readers may derive such definite information in regard to the opening up of the great argentiferous interior as they may require to enable them to comprehend the situation.

The road is completed and in running order to Argenta, but it is graded and may be considered completed to Humboldt (12 mile) Cañon, or even to Humboldt Wells, on the other side of the Cañon. While during the winter the principal business terminus will be Argenta, it is thought that if the snows come lightly the whole road may be completed to Salt Lake, by January. There were on the 1st of November 440 miles of track to be laid yet, to complete the entire Pacific Railroad; of which 230 fell to the Central Pacific, and 210 to the Union Pacific Railroad Company. Construction trains on the building end of the Central Pacific, are designed to be kept constantly from 70 to 100 miles ahead of the terminus. Nearer than that we are unable to specify how far our end of the road may at this instant be pronounced actually "finished."

Not the least interesting feature in connection with the great railroad building is the engineering *personnel*,—the character of the men who are directing this historically picturesque army of laborers. Manly energy, sometimes possessed to an extraordinary degree, is the characteristic of every one of the engineers with whom we have had the pleasure of becoming acquainted; and the tone of the majority is such as would be derived from an ample experience in rough adventures, over no limited portions of the world, and of self-developed mental culture, according to the bent of the individual. We are not able to mention the names in full, but the following list will embrace most of them:

NAMES OF THE PRINCIPAL EMPLOYEES.

Chief Engineer—S. S. Montague.

Principal Assistants—Charles Cadwalader, in charge of the line this side of Humboldt Wells; Mr. Clement (also Chief Engineer of the Western Pacific R. R.) in charge of the line between Humboldt Wells and Salt Lake. Mr. Clement has gained the reputation of being a splendid engineer, a fact which was accidentally discovered by Mr Montague while he was employed in a subordinate position for which he had offered himself, no one having been made aware of his antecedents.



REFERENCES—1, Reno. 2, Wadsworth. 3, Maags. 4, Brown's. 5, Granite Point, or Pump Handle. 6, Lovelock's. 7, Oreana. 8, Humboldt City. 9, Mill City. 10, Raspberry Cañon. 11, Winnemucca. 12, Emigrant Cañon. 13, Reese River and Sink. 14, Argenta. 15, Humboldt Cañon. 16, Humboldt Wells. 19, Hunter's. 20, Crystal Peak. 25, Black Rock and Mud Lakes. 28, Belmont. 29, Hamilton. 30, Shermantown. 31, Pyramid Lake. 33, Carson Sink. 34, Goshoot Lake. 35, Aurora. 36, Humboldt Desert and Humboldt Lakes.

Consulting Engineer—George C. Gray, formerly of the New York Central R. R.

Locating Engineers—The pioneers who have been engaged in making the preliminary surveys and locations: Butler Ives, formerly Commissioner of the California and Nevada Boundary Survey; and Messrs. Bates, Phelps, Slade, McCloud, Lawton, and Stevenson; the last two having been engaged part of the time on the Western Pacific.

Constructing Engineers—Wm. Hood, H. Root, Robt. Finley, Col. R. E. Patten, formerly of the U. S. Engineer Corps, a well known and very competent engineer; Mr. Graham, and W. B. Treadwell, the latter having been connected with railroads in the Western States.

Engineers in charge of the track-laying.—Mr. Haslett, the author of Haslett's Engineering, formerly connected in some way with Columbia College; and Edward Mix.

Under the immediate authority of the Contractor, Charles Crocker, who is really the builder of the road, though the work is in his hands in the form of a contract at so much per mile throughout, is the

Superintendent of Construction—J. H. Strobridge, the actual manager and builder who "runs the whole concern,"—a very energetic man, and necessarily an important personage.

The Superintendent of Track-laying, under the contractor, is Mr. Minkler. Besides which there are, under Mr. Strobridge, known popularly if not elegantly, for want of a better designation, as

"*Riding Bosses*"—Messrs. J. B. Harris, Wm. Gray, Frank Freytas, and Michael Stanton.

THE KIND OF COUNTRY.

Beyond Reno the country soon becomes treeless, though not entirely barren, until after leaving the Truckee at Wadsworth to continue its course northward to Pyramid Lake, the traveler comes in sight of Humboldt Desert, which is remarkable and will become famous for its mirages, indicated by the name given to one of the stations. It is forty miles across. Thence to Winnemucca (11) the soil answers tolerably well for raising vegetables. At Raspberry Cañon (10), right in the alkali soil, they have been raising some of the best barley in the world; and vegetables enough were produced by a wide awake Teuton who went there and planted in season last Spring, to supply the entire railroad corps. On the Humboldt Meadows excellent grain of all kinds is raised. Paradise Valley, northeast of Winnemucca, is already transformed into a valuable farming country.—Thence on to Humboldt cañon the agricultural capabilities are good, the bottoms being covered with luxuriant grass, of which a great deal has been cut during the past season. The water from Reno to Gravelly Ford, (just this side of Humboldt cañon) is not good, being strongly impregnated with mineral matter. At Gravelly Ford, however, the country is pleasant, and the water good. Humboldt cañon is very narrow and precipitous. Beyond it, the soil and climate are excellent for farming, and it is settled by Mormons who have ranches all along from Humboldt Wells to the north end of Salt Lake.

STATIONS AND DISTANCES.

Sacramento.	*Miles.*	*Total.*
Arcade	7	7
Antelope	8	15
Junction	3	18
Rocklin	4	22
Pino	3	25
Penryn	3	28
Newcastle	3	31
Auburn	5	36
Clipper Gap	7	43
Colfax	11	54
Gold Run	10	64
Dutch Flat	3	67
Alta	2	69
Shady Run	4	73
Blue Canyon	5	78
Emigrant Gap	6	84
Cisco	8	92
Summit	13	105
Truckee	14	119
Boco	9	128
Camp 24	10	138
Verdi	5	143

[CONTINUED ON PAGE 324.]

Communications.

In this Department we invite the free discussion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Mining in Sierra County.

HOWLAND FLAT GRAVEL MINES.

Here are the Union, Hawkeye, Pittshnrg, Monumental, Empire, Virginia, Down East, French, Sugar Loaf, and other companies.

The leading company is the Union, which is 2,000 feet in frontage, and 3,400 feet long towards the hill, Table Rock. On the east side of the Union is the Hawkeye Company, 800 feet in front, 3,000 feet long; the Pittshurg, 800 feet front, 2,500 feet long; the Monumental, 1,200 feet front, 2,000 feet long; Empire, 1,200 feet front, 2,000 feet long; Virginia, 800 feet front, and 2,000 feet long. On the other side of Table Rock, on the south, running the tnnnel towards the works of the Union Company, is situated in Gold Cañon the Sierra Company, and the Fashion Company, each about 800 feet front and 3,500 feet long. The old river bed, on which all these companies are working, is to all appearance running from N.E. to S.W., and the bottom of the same lies very deep, so much deeper than Howland Flat, that it would require very long and deep started tunnels for drainage, in case these gravel mines shonld be washed as at San Juan, Smartsville, Timhuctoo, Cherokee Flat, or like diggings. But the main reason for working these mines around Howland Flat by drifting, is the scarcity of water, which could only be brought in from Gold Lake, under a very heavy expense. Now the different companies have, from springs in the neighhorhood, water collected in reservoirs, sufficient to wash their drift dirt.

The Union Company is working in the most extensive style of any company around here, and perhaps of any other gravel mine worked by drifts; and a particular description of this mine and the style of working the same, will be enough said in regard to these mines in general. The work which opened this mine was commenced in the spring of 1857. The same is 352 feet, at an angle of 24 degrees, and is prolonged by a tunnel following the rise of the bedrock. This tunnel is in about 3,500 feet, and to both sides a great many side drifts are made. Another tunnel is started from the stope towards the Hawkeye ground, now about 800 feet in, which will open new ground to he worked in about five or six years. A third tunnel will be started from the stope, nearly at a right angle with the last mentioned tunnel, which will in time become the main work tunnel. From 5 to 15 feet above the 3,500 feet long tunnel, an air tunnel is run, which ventilates the mine very well. This tunnel was more practical than raising air shafts to the surface, as the top and the sides of the Table Rock is covered with a very thick layer of lava and basalt. For timbering the mine, all sizes are used; for breasting, from 3 to 7 feet long; for spilings, 4½x5 feet long; round timber for posts, 6 to 7 feet in length; for caps, 5 to 9 feet long. In the new tunnel, called Broadway, timber is used for posts 6½ feet, and for caps 7½ feet, of a diameter from one foot to 20 inches. The gronnd needs very careful timhering, as the bedrock is swelling. The repair and retimbering of the tunnel which is now used as a main working tunnel, is so expensive that the company prefers to run the new tunnels as above mentioned.

In former times the company used steam power to hoist the gravel, but the expenses were too large, and the danger of fire was great, as during a great part of the year strong winds are hlowing here, so that the company have made arrangements for using water for hoisting in place of steam. This is a very cheap and a very conveniently arranged way of working. Tho water is carried in pipes from a reservoir, and has a perpendicular pressure of 124 feet, being brought on to a Fredenhurgh's patent wheel, 24 feet diameter, which moves a large drum ou which two wire ropes are running, hoisting one car and lowering at the same time another one on the double track of the slope. After the water is used for hoisting, it is discharged into a large reservoir from whence it is used for washing the dirt. This is done in front, and in proportion helow the slope on a platform, as usually used for this purpose. This place is covered hy a large house, which incloses the hoisting works and hlacksmith shop. The sluices are 1,200 feet long, which contain slat riffles covered with iron, and at the lower end old car wheels are used to a very great advantage. At the ahove mentioned reservoir, pipes and arrangements are attached to extinguish fire, which could hreak out in any of the surrounding houses, where a large amount of timber is stored. The company works on an average 75 men, sometimes as many as 100, paying from $3 to $3½ por day. The amount of hlne gravel hoisted last year, was 102,112 car loads (a car load containing one ton), at a total expense of $83,425. The total yield was $123,882.13, which left a surplus of $40,457. The deposit of this old river channel is mostly quartz gravel very little intermixed with slate. The gold is undoubtedly quartz gold, very frequently showing particles of quartz attached to it; some of the quartz boulders showing also free gold, and some showing considerable snlphurets. The mass of sulphurets, which appear hroken up in the gravel, seems to be rich, but the company has until now saved none of them. They will do it hereafter, as I pointed out to them the manner of saving the same, and having them worked. The deposit of hlue gravel is not high, and in no place, until now, has it heen found on the bedrock higher than 4 feet 8 inches, heing covered with a layer of fine sand 10 to 40 feet high, and this sand again is covered with a very extensive layer of pipe clay, intermixed with strata of sand. The Union Company has its own sawmill, water privileges, timher land, and reservoirs.

All other companies around here work on smaller scale, although they have rich ground. Here a very large field is left for working, as most of the surrounding hills contain gravel. The channel is, to all appearance, running from N.E. to S.W., and prohahly split hy Tahle Rock, one channel passing along Howland Flat, the other running along Cold Cañon, down to Poker Flat, and from there to Morristown. Nearly opposite Howland Flat is another channel, opened at Gihsonville, and higher up at Whisky Diggings. These channels go into Plumas County, but are there not opened. Here in Sierra Connty, wheresover deep ravines cut these channels, rich surface and river diggings are found, hut these places are mostly left to Chinamen, as white men consider them worked out. Wherever here in Sierra County large deposits of lava and hasalt are found, almost all these places show underlying deposits of gravel. Should this not bo a good gnide for hydraulic mines? In such a case, Clover Valley, and other placcs in Plumas County, shonld have good gravel diggings. Sierra County has proved, since the discovery of gold fields, one of the richest, if not the richest field for mining, and it still is plainly visible that all these old river channels crossing this county are only opeued and worked in comparatively few places. Capital is needed, but this only can he expected to come in after the railroad is finished, for then eastern capitalists will be induced to look at the mines for their own advantage.

THE EUREKA MINE,

John Parrott & Co., proprietors. This mine like so many discovered and first worked hy Mexicaus in their preferred style of grinding quartz in arastras, had iu former times two arastras running. The mine is situated on the north side of Jamisson Creek, in Plumas County, near to the line of Sierra County. The ledge is running along the hillside about 1,800 feet above Jamisson Creek, runs from northeast ot southwest, and crosses the creek and runs towards the Sierra Buttes, and is prohably one of the ledges on which the Sicrra Buttes Company is located; judging from the texture of the quartz and the sulphurets, it might be the Rose ledge, the richest of the veins on which the Sierra Buttes Company is working. The Eureka changed hands at different times, all the former companies having had incompetent managers, it is alleged. After the property came into the hands of John Parrott, a different stylo of working was adopted, under the superintendenco of H. L. Leightner. This gentleman has succeeded since last spring in shipping hullion to the amount of $80,000—in less than six months time, and the new openings which are made guarantee for the next year results of double that amount. This season was too short to finish the arrangements of supplying the two mills with sufficient water to work through the winter, and cousequently the mills were closed np last week, to remain standing idle until next spring. But at the mine work will be coutinued through the winter by thirty men, who will take out quartz. Since this spring the company opened new parts of the ledge and found rich quartz, averaging from $15 to $20 per ton. The company owns two mills, of 20 and 16 stamps, and one sawmill. The next claim is the Seventy-Six, located on the same ledge, but for the present not worked, in consequence of an injunction. This part of the ledge appears to be richer than the Eureka claim, hut the works are started considerahly higher up than those, and all the quartz was packed on mules over a very bad trail. The next claim on the same ledge is the Rough & Ready, belonging to John Parrott. Only prospecting work is doue, although the ground would afford a good opportunity to open up the entire ledge in the hest style, as the vein runs along the hillside, crossing Jamission Creek, where a deep tunnel could he run on to the ledge, which would give over 2,000 feet of backs. At this point on Jamisson Creek, mills could be erected and worked by water power, to run 100 stamps and more.

On the other side, northeast of the Eureka mine, are the Mammoth mine and mill. The works on the ledge are started too high, and in consequence the ledge is found hroken up, still showing in places very rich ore. The company finished a long railroad track on the side of the hill leading down to their mill, which is situated on Jamisson Creek, and a few days ago the mill was started. Surface mining on Jamisson Creek is very limited now; the places are worked out, hut paid very rich in former times. All the gold found in the creek is quartz gold, and not washed, and came uudoubtedly from the Eureka ledge and the surrounding claims.

F. B. S.

Enterprises and Developments.

Steamboat Communications are no longer a matter of experiment on the Colorado. A new stern-wheel steamer named the Chindu-Wan has been built at Stockton hy Mr. Davis, expressly for the Colorado river, under the superintendence of her present commander, Capt. R. T. Rodgers, who took the first boat up the Colorado river as high as Callville. Chindu-Wan is an Indian name and signifies "leader," or pilot.

On the Columbia steamers are now running regularly almost to the head-waters; up Snake river (the Idaho branch) as well as up the northern branch to the confines of British Columbia; the former having been put on by the Columbia River Steam Navigation Company, and the latter by private enterprise.

On the eastern side of the Rocky Mountains a lot of St. Louis stern-wheel hoats make regular trips to the foot of the mountains, and on the Saskatchewan occasional trips are made from Lake Winnipeg, in small steamers carrying Hudson Bay Company's freight.

As an example of the unprecedented development of our western slope within a few years, even independently of mining, we may single out harharous "Walla-Walla," that *Ultima Thule* of the days of Olney's Geography, which was then about the only place marked ou the river; it is now a center of 8,000 inhabitants,—a fact which even Californiaus can scarcely realize. Coastwise aud trans-oceauic steamers go everywhere—to every place that can offer any attractions for a visit from the "man of destiuy."

Tamalpais Lumbering Company.—A joiut stock company has beon formed uuder the leadership of well known names, which are recognizable "iu everthing," for the purpose of hringing to market "the redwoods" ou Shafter's Ranch, northwest of Tamalpais. A railroad is to he built, from the timbered section, via Lagunitas Creek to California City on Richardson's Bay, opposite the ferry landing at Saucelito, and nearly as close as that to San Francisco; the line having been surveyed some time ago, but left in *statu quo* for further developments. We understand that the Shafter Brothers retain an interest in the enterprise.

The following interesting items are extracted from the S. F. *Real Estate Review*:

The Salinas and Pajaro Turnpike Road Company has been temporarily organized, and will soon begin the construction of a road from Castroville to a point on the north sido of Elkhorn Slough, counecting with the public road which leads from there to Watsonville. * * * A contract has heeu made for boring an artesian well in Dry Creek Valley, Fresno County, and, if necessary, the boring will go to the depth of a thousand feet. * * * There are about 238 acres of tohacco growing in the neighborhood of Gilroy, and the owners expect to put 300,000 pounds this year. * * * A large tract of land near the foot of Second street, the sale of which to F. B. Tichenor, was mentioned in the papers some few days ago, is said to have been bought by that geutleman for the San Francisco and Alameda Railroad Company, with a view of running their boats across to that poiut, which is about the same distance from Encinal as the Pacific street wharf is from Oakland. * * * Six months ago the site of Salinas City was surveyed and the first lot sold. Then the city consisted of a dilapidated hotel and one store; to-day it hoasts of eighty substantial buildings, and among them a store of metropolitan proportions. * * * At San Diego the olive has long been one of the regular products of the soil, and has been cultivated to some extent for pickling. But of late, ranchmen are heginning to turn their attontion to the making of oil. A Mr. Sanborn, of San Diego, has 400 trees, and expects to make a considerable quantity of olive oil for exportation.

Proposed Road from Susanville to Surprise Valley.—Z. N. Spalding, foreman of a road party, reports in the Lassen *Sage Brush:*

We have succeeded in finding a practicablo route from Susanville to Surprise Valley, and one which will comprise a distance of not more than 60 miles. The route as proposed by us will be by way of Horse Lane and Red Rock, entering Surprise Valley at or near its southwest corner. The hill hetween Susanville and Willow Creek is the steepest on the entire line. Very little grading will he required, and, in fact, teams could now pass over it almost, if not quite, as easily as over the Smoke Creek route. Grass and water abound ahundantly. The longest stretch between watering places is only a distance of seven miles. On our return from Surprise Valley we made the trip with a four horse team in about three days. The major part of the labor in making this road will consist in throwing the rock out of the proposed track; this done, and all the travel will go this way all the timo in preference to any other route. What the expenses of a first class road will he is hard now to determine, but we are convinced that three weeks labor on each end of the road with ten men wonld cause the ahandonment of every other route into Surprise Valley. We therefore recommend this route as a very excellent one, and advise immediate action in its construction.

The same country will be found further described in the Boundary Survey Report, written by James S. Lawson, and published at Sacramento in 1864. This is a valuable section, having plenty of water, grass, and timber, on the horders of the barren mining country of Nevada.

Wood Working at Salt Lake.—The Deseret Steam Woodworking Company have commenced operations at their new shops, one hlock west of the Tabernacle, Salt Lake. The machinery is of the finest make, and with it the country can turn out surfaced lumher and tongued and grooved flooring in any quantity with dispatch.

Susool Branch Railroad Project.—A company has heen incorporated to build a road from Suscol across to the Saucelito and Humboldt Railroad, below Lakeville, a distance of about twenty miles, most of the way across the tules. When the southern part of the Humboldt Railroad is finished, this junction line will furnish a convenient method of reaching Sacramento and the interior from this city, as the distance will be shorter than hy the Western Pacific route.—*Alta.*

The San Diego *Union* advocates the establishment of an intelligence office iu that town.

Mechanical.

TEMPERING OF HARDENED STEEL.—The following is from Landrin's new treatise on steel: The colors, during the tempering, are a sure guide for the workman, of the degree of hardness or tenacity he desires to obtain. Dark blue indicates a great tenacity, straw yellow produces a greater hardness, and is the tempering shade for razors. Bistouries, lancets, penknives, erasing knives, some scissors, and generally blades requiring body, are reheated to full yellow. The strong blades for table knives and gardening tools are tempered to a brown or a purple brown. Purple is the proper color for large shears. Violet and dark blue are for springs; with a violet color, the spring will be very elastic but brittle, a blue shade will make it very resisting. It is very difficult to break a spring reheated to the color of water; but its elasticity is a great deal lessened.

"UNWEAVING" RAGS.—The saving of the fiber of silk or other rags for future spinning, has been repeatedly experimented upon without success. The mode most in use of utilizing these waste fabrics has been that of grinding them to "flock" to be mixed with new material for the making of "shoddy." The *Mechanics' Magazine* for Sept. 11th, describes a new, very ingenious, and very simple apparatus for "*unweaving*" these rags. It not only preserves intact the fiber, but it is also completely effective in separating for use the threads of such fabrics as are woven of silk or wool upon a cotton weft. It consists merely of an endless brush, which travels underneath a revolving roller furnished with pins. This roller combs out the threads, and is cleared of them by another roller above, which has a brush surface.

NEW ROCK-DRILLING MACHINE.—The *Scientific American* has seen a drilling machine recently invented by a Vermouter, which will make a smooth one and a-half inch hole "in extremely hard rock" at the rate of one inch per minute. It is thus described: The machine consists of an upright boiler, with an oscillating steam cylinder attached which drives the drill, and a pump which constantly forces a stream of water into the bore-hole. The drill is a short hollow cylinder of iron armed with diamonds placed on the lower end, which is serrated, to form seats for diamonds. This tool is fixed to a hollow tube of iron to which two gears are attached, connecting with the primary gear, which is driven by the steam cylinder. The upper and lower gear give, by the ordinary adjustment, reverse motion to the tube. The water is forced through the tube by the pump and effectually clears the bore-hole of detritus. The cutting is done in a circle, by the revolution of the tool, and a ping is left which passes up through the tube as the latter descends, leaving, however, sufficient room for the descent of the water. This plug or cylinder of rock is easily broken off and removed, and is in many cases valuable, as it is always a good specimen of the rock through which the boring is done.

HEAVY LOCOMOTIVES.—The general adoption of steel rails in place of those of iron, which it now seems probable will ultimately take place, will bring into use locomotives of much greater weight than are now desirable. *Engineering* says: It would afford a good exercise to many young engineers to set about designing six-coupled engines of a weight of 50 tons or thereabouts and having this weight equally distributed. The cylinders would require to be from 20 to 21 inches in diameter, for two feet stroke and five feet wheels, and the boiler should not have less than 1,800 square feet of surface, and 30 square feet of fire grate.

THE FRENCH ATLANTIC CABLE.—The manufacture of this cable has been commenced. The Great Eastern is to be moored, and fitted up as for her former cable-laying; and the cable will probably be stowed in her tanks as fast as finished.

CRYSTALLIZED TIN-FOIL.—Puscher, of Nurnberg, gives the following process for obtaining a crystallized surface upon tin-foil, used for various ornamental purposes:

A solution is made by dissolving two parts of chloride of tin in four parts of hot water, and to this is added one part of nitric acid and two parts of hydro-chloric acid. The foil is to be dipped into this mixture and left until the crystals appear; but it answers very well to brush the foil over with the liquid. In either case, as soon as the crystals appear, the foil must be rinsed with cold water. It will do to sponge the surface well with a soft sponge and plenty of water. When the solution is applied to cold foil the crystals are small, but very brilliant. Large crystals can be procured by heating the tin-foil on a hot plate, and brushing on the solution when the melting point is nearly reached. This solution may be used as a test for the purity of tin, inasmuch as tin containing only one per cent. of lead or copper will not give a crystallized surface.

BORING FOR COAL.—The rods are usually in 10-feet lengths, 1¼ inch square iron. The borings are usually made from two inches to twelve inches diameter with the ordinary tools—augers and chisels of various kinds. From twelve inches to eight feet the borings are made with a "miser," which is a wrought iron instrument, with a strong halfing joint at top. For a 12-inch boring the "miser" is made twelve inches diameter, and twelve inches high; it has a conical bottom, with a valve covering a small portion of the bottom; when the valve is opened, one edge of the opening acts as a cutter, scooping the material into the inside as the "miser" is turned round; when full it is drawn up to the top. In borings of large size and great depth steam-power is applied, with winding gear, jumping beam, and a high wooden framework, which facilitate the drawing and letting down the rods, and effect a great saving in time and cost,—very important matters in boring. Where the stratum is soft, and the bore-hole requires lining, wrought iron pipes are inserted with screwed ends, peculiarly made for borings, as they have no projections inside or out, and can be more easily forced down the holes. When these pipes can not be driven further, it is necessary to insert other pipes inside them, thus reducing the size of the boring, and increasing the cost.—"*La Honille*," *Coll. Guardian.*

AN ENDLESS CHAIN.—An English coal company,—the West Staveley,—has had constructed an endless chain three miles long, and weighing twenty-six tons, for the purpose of conveying coal by means of cars over hilly ground, from the pit to their colliery,—a distance of one mile and a half. It travels,—says the *Colliery Guardian*,—at the rate of two miles an hour over the ground, but is capable of being worked at the rate of six miles.

IMPROVEMENT IN BLAST FURNACES.—An English inventor has obtained "provisional protection" for certain improvements in blast furnaces, one of which consists in contracting the blast furnace at one or more elevations, whereby a support is afforded to the superincumbent mass, which prevents an undue pressure on the materials in the lower part thereof, and thus avoids a dense mass through which the air has to be forced.

GLAZED WATER-WHEEL.—A new wheel has been patented by an inventor in Troy, N. Y., which has its surface *enamelled*, to diminish the friction of the water upon it, and,—in the case of iron wheels,—to prevent oxidation. The substance used for the purpose is not mentioned in the notice which we have seen of the invention.

IMMENSE ROPE CABLES.—Three of the largest cables ever made have just been completed at the Chatham Dockyard, England. They are to be used for towing the new monster iron dock to Bermuda. Each is 26 inches in circumference, is 101 fathoms in length, and weighs seven tons.

CHILLED RAILS.—Rails with chilled surfaces,—produced by bringing water in contact with them when coming from the rolling-mill,—are talked of in England.

Scientific Miscellany.

Rust in Wheat.

The Commissioners appointed by the Governor of South Australia to inquire into the nature and causes of the rust, have collected several contradictory experiences of wheat growers. One finds that it occurs on newly cultivated land; another sees it only on exhausted soil. One thinks it is caused by manuring; another that it is prevented by it. One sows early, and it occurs; another late, with a like result. One says white straw is the best; another recommends the purple straw. The *Mark Lane Express* says: "There is no doubt that climatic conditions have the greatest share in the production of the red rust. A moist, warm season causes a florid development of vegetation, and opens the breathing pores of the plant, and so gives passage to the spores of the parasites which are continually held suspended in the air. These, entering the openings, throw out their rootlets, and, intercepting the sap between the stem and the ear, impoverish the grain and destroy the crop. Dr. Muecke is of the opinion that the red rust never attacks the wheat plant unless it is otherwise diseased. The following case is instanced by him. Part of a field of wheat, in which wild oats had prevented the wheat from growing, was cut for hay. Immediately the wheat sprung up healthy and vigorous, and developed full ears and fully grown grains; not a particle of rust was perceptible on this part of the field, whilst the surrounding thick and high wheat was completely covered with it. The cause assigned is, that the wheat did not grow till the time was passed in which the influences supervened that predisposed the plants to disease. While the spores passed over them they were not infected, because the spores did not find the conditions of their existence—that is, diseased sap and weak cells—upon them."

GEOLOGICAL APPLICATIONS OF PHOTOGRAPHY.—Mr. James Thomson, of Glasgow, saws thin plates from translucent fossil corals, polishes them in the manner described in the PRESS some time since as recommended and practiced by David Forbes, F.G.S., and then prints from them by means of photography. He has made upwards of two thousand such sections, and has undertaken to prepare a duplicate set for the British Museum. He has been working at the subject for seven years. It is a process requiring the most delicate care; for the cut must be so made as to exhibit the internal structure of the extinct organisms of which the coral is composed. One touch too much will spoil the specimen. Mr. F. has been occupied for ten hours in finishing a single section. He has had transparencies and micro-photographs also taken from these stone negatives.

ARTIFICIAL MAGNETIC OXIDE OF IRON.—Mr. Sidot introduces a small platinum disk, filled with colcotbar, into a porcelain tube, situated in a direction parallel to that of a dipping needle. After keeping the tube at a temperature a little below a white heat for about an hour, the colcotbar will be found transformed into a grayish metallic oxide, the particles of which are strongly agglomerated together. This mass possesses the property of polar magnetism.

ACTINOMETER.—A new actinometer has been introduced by Dr. Vogel, which is so arranged as to expose sensitive paper to light under a ladder formed by layers of paper resisting in varying and regular degrees the action of the light, and each one being indicated by its particular number. The instrument is used in a kind of frame or box resembling an ordinary printing frame, but opening at the side.

ALTERNATE ELEVATION AND SUBSIDENCE OF THE LAND.—At a recent meeting of the British Association for the Advancement of Science, Rev. John Gunn read a paper upon this subject. After referring to the post-glacial and middle drift deposits, he called attention to the forest bed and the laminated beds found thereon, as exhibiting in a striking manner the results of alternate elevations and depressions. This forest bed was formed, at least in part, in a basin of chalk covered with a bed of angular flints, bearing traces of the mastodon. At Easton Bavant, it abutted upon a bed of light blue clay remarkable for false stratifications and an indurated gravel. This gravel abounded with the remains of several species of elephas and cervus, which were found not rolled but sharply broken, together with the bones of cetaceans of enormous size and much-drifted wood—facts which indicated that the forest bed was a fluviatile or estuarine deposit open to the sea; and that the elephantine and cervine remains had been carried into it by some powerful current. He regarded the German Ocean as the vast trough or river bed, into which many tributary rivers poured their waters on the right and left banks, but closed by chalk hills to the south, so as to afford a communication between this country and the continent, and a way for the mastodon, elephant, and other mammals to traverse. The soil of the forest bed, after being thus deposited, was raised to the surface; the forest grew upon it; great change in fauna took place; different species of elephants and deer were introduced; and then, after remaining stationary for a long period, a gradual subsidence commenced, and the laminated series began to be formed.

THE GREAT SOLAR ECLIPSE.—From the observations made by the experts who were sent out to Bombay for the purpose, it appears that "the spectrum of the red protuberances which are seen around the black disk of the moon during totality, and which have long since been proved to belong to the sun, has been found to present a very remarkable and unexpected appearance, proving that the protuberances themselves are gaseous. These enormous masses of luminous matter, some of which exceed the earth many hundred times in volume, had been supposed to be solar clouds, formed by the condensation of the metallic vapors, which exist within the solar atmosphere, into liquid globules, in a manner precisely corresponding to the formation of aqueous clouds in our own atmosphere." We quote the above from *Engineering*.

NEW EXCITING LIQUID FOR BATTERIES.—M. Delaurier has communicated to the French Academy of Science a note upon a new exciting liquid for galvanic batteries. It is prepared by dissolving 20 parts, by weight, of proto-sulphate of iron in 36 parts of water,—without exposure to the air,—and stirring in seven parts of diluted (equal parts) sulphuric acid, then in the same manner one part of diluted (equal parts) azotic acid. Mons. D. states that this is the most energetic and economical excitant that he is acquainted with, and that it acts without any disengagement of hydrogen or binoxide of azote.

FLUX FOR BLOW-PIPE USE.—Stephen D. Poole sends the *Scientific American* a new flux for blow-pipe use, which will doubtless be welcome to many of our readers. He says: "A mixture of sulphate of lime and fluor spar, in equivalent proportions (say about two parts of crystallized selenite to one of fluor spar finely mixed), forms an easily fusible bead, which by itself gives only a very faint dull red tint (lime) to the flame, but which renders the presence of such elements as give color, most beautifully evident and characteristic. Thus, small portions of lepidolite, petalite, etc., mixed with this flux, impart the fine carmine tint; copper, strontium, their well known colors, especially after continued blowing. Potash and soda minerals (feldspar and albite) are at once distinguished.

Reno	11	164
Clark's	20	174
Wadsworth	13	187
Hot Springs	20	207
Humboldt Lake	21	228
Oreana	30	258
Humboldt City	24	282
Mill City	12	294
Winnemucca	30	324
Fairbanks	10	334
Emigration Canyon	8	342
Stone House	15	358
Reese River	22	380
Skull Ranch	9	389
Shoshone Point	13	402
Beowawe Gate	7	409
Gravelly Ford	5	414
Twelve Mile Canyon	5	419
Trout Creek	7	426
Two Mile Canyon	11	437
South Fork	12	449
North Fork	25	474
Bishop Creek	21	495
Humboldt Wells	14	509
Independence Springs	15½	524½
Peoquop Pass	5	529½
North Pass Toano Mountains	18	547½
Passage Creek	25½	573
North Point of Desert	22	595
Terrace Point	12	607
Red Dome Pass	20	527
Monument Point North end Salt Lake	24	651
Promontory Mountain	27	678
Bear River	29	707
Brigham City	3	710
Ogden City	21	731
Weber Canyon	10½	741½
Upper Weber Canyon	16½	758
Weber Station, Echo Canyon	15½	773½
Echo Summit	23½	797
Junction Bear River and Yellow Creek	10½	807½
Quaking Asp Summit	22	829½
Opposite Fort Bridger	24½	854
Black Fork	18½	872½
Junctiof Ham's and Black's Forks	11	883½

TIMBER.

There is no timber along the road, except some cottonwoods on Maggie creek and on tbe north fork of tbe Humboldt—large trees and making tolerable timber of the kind. But in the cañons and on tbe hills tbere is plenty of scrub cedar all over the State, except in the Humboldt Desert country. More wood will be found in the hills than any hasty traveler would imagine, and it is not wortbless by any means, although it is scrub. Nut pines are nowhere found near the railroad, tbe nearest point being 70 miles soutb of Argenta on the Austin road.

LAND PROPERTY.

The lands not having been surveyed yet by tbe U. S. government, are not in tbe market. The government surveyors have got as far as Argenta, running up tbe section lines along the line of tbo railroad only for convenience. Tbe country will be open for settlement as soon as a plat has been made for the U. S. Surveyor General'e office at Virginia City. Government land is held at $2.50 an acre, and the Railroad Co's lands are tbe same, except town lots, which are sold at auction. A great deal of the land along the railroad will be withheld as mineral land; will not go to tbe Railroad Company, and will not be open for preëmption.

MINERALS.

On the Trnckee there are pyritiferous copper ores; on Humboldt Desert there are fine beds of pure salt; beyond tbat, in tbe vicinity of Oreana, there is a curious mineral section, which appears to be different from anything elsewhere known in the world, in baving large deposits of carbonate of lead, probably cerusite (we have not heard of any crystals); at Emigrant Cañon gold has been found; eleven miles beyond Argenta, at Shosbone Point, the railroad cuts through a ledge of argentiferous galeua; near tbe same place—six miles back—coal is found plentifully to smelt tbe same, and thenceforward to Salt Lake there are frequent evidences of coal.

GEOLOGICAL.

Humboldt Desert is volcanic, being covered by a black lava. There are many hot springs, incrusting lime and alkali. A very remarkable country of burning springs, which will become renowned, is situated due south of Beowawe Gate station eight miles. The entire ground for over a mile is covered with little blue flames, and the soil quakes. Indians resort thitber in the winter for warmth. Being on the side of a mountain, tbe fires can be seen eight miles distant, at Beowawe Gate.

Another volcanic region is in the Shoshone Point neighborhood, between Argenta and Gravelly Ford; a pass between two mountains there presents one of tbe most striking views on the road. A lava range, consisting of great bills, crosses there, running north and south. Tbe rest of the country is sedimentary, and to a great extent metamorphic; the country affords many fossil shells, and the sides of the mountains everywhere show parallel water lines, evidencing past submersion. In Humboldt cañon aj fossil mastodon and fossil lizards have been found, which were forwarded for Judge Crocker's museum.

IDAHO BRANCHES.

The Union Pacific Company have come aa far thia side of Salt Lake as Humboldt Wells, and are grading there, working backwards. It is supposed that they intend to branch off to Idaho, as there is not room for both railroads to get through Humboldt Cañon.

Winnemucca, it appears, is to be deprived of its significance as the Idaho wagon road junction, the railroad company baving determined to build tbeir works for the terminus of the Humboldt division at Raspberry Creek (10) several miles on this side of Winnemucca.

Businesses that Pay.

There is a look of prosperity on the streets in San Francisco. Down town, in the leading business streets, tbere is an air of care and responsibility, and not all the faces one meets speak prosperity; but the majority of them do. Montgomery street is filled with passing examples of people in exciting and prosperous business. Kearny street shows evidences of newly grown wealtb, and at tbe same time of moderate possessions, but the class represented by the latter case is speedily being transformed into sometbing evidently substantial. Going up on the hillsides, especially along the streets admitting of a through grade, one sees not only mansions that bave sprung up like spring weeds, but other evidences of wealth and luxurious ease; the latter showing themselves modestly as yet, and properly. But it is out in tbe new parts, where the Irishmen are still grading and the sidewalks have been completed only in stretches, that every object wears an air of life—the Irishmen being apparently tbe best satisfied of anybody .seen. Cartmen, teamsters, mechanics of all kinds, and laborers of tbe steady class, saloon keepers, aud even occasional idlers, who must be driving peculiar trades of their own, appear to be on the high road to wealth. Wood, furniture, and iron manufacturers of all kinds, are carrying on active, and sometime colossal businesses. Not many manufacturing enterprises are languishing, because they are not likely to be long pursned where other things appear more promising. Along the water front of Rincon Hill and Mission bay, and even partly on the Potrero side, there is a surprising array of evidence of great enterprises, and gigantic developments everywbere, that in a few years will present appearances most imposing.

To enumerate the prosperous pursnits in detail would occnpy more space than is necessary for our pnrpose; bnt everything related to building, opening streets, improving real estate, eupplying the wants of people wbether by manufacturing or by agricultnre, or trading in sucb products of nature and of industry as are indispensable, appears as prosperous as could be in any highly favored country. The great enterprises are all undertaken by combinations of industry and capital; affording to capitalist and servant tbe most favorable conditions for their advantage.

To observe correctly what trades and industries are the most certainly prosperous, requires but an intelligent realization of what is going on in the community. The commonest instinct of imitation is sufficient to put any industrious and well balanced person upon the same road of prosperity that others are traveling under his eyes.

Nevertheless, the great compensating fact of history stands out before us that the prosperous are not always the fortunate; tbat the higbly favored in mental and moral composition, in the matter of happiness and in the enjoyment of life, in influence upon the world for its good, and tbose who recruit the lists of fame, are more frequently than not the persons who follow businesses that do not "pay."

OSCILATING PUMP.—At Wadsworth station the C. P. R. R. Co. are about putting up one of H. B. Martin & Co's novel oscillating pumps, which has 6 inches diameter of cylinder, and 10 inches stroke—double cylinders—with a capacity of 10,000 gallons per hour, at 70 revolutions per minute; using from 8 to 10 horse power.

New Patents Issued to Pacific Coast Inventors.

Especially reported by the U. S. Patent Office, Washington, D. C., to DEWEY & Co., American and Foreign Patent Solicitors, and Publishers of the MINING AND SCIENTIFIC PRESS.

FOR THE WEEK ENDING NOVEMBER 3D.

[No list of Patents for tbe Pacific coast for the week ending October 28th has been received, owing perhaps to the detention of the Overland mails.—EDS. PRESS.]

83,622.—IMPROVEMENT IN BELL PULL.—James Garvey and Matthew H. Kimball, San Francisco, Cal.

We claim tbe application of tbe lifting wedge H, combined with the lug I, which being attached to the pull bar G, operates with it directly on the hammer E, in the manner herein described and for tbe purpose above mentioned.

83,623.—IMPROVEMENT IN BELL PULL.—James Garvey and M. H. Kimball, San Francisco, Cal.

1. We claim the lever D, as constructed, and the attachment of the wedge piece G, thereto.

2. We claim the attachment of the haudle or pull bar H, directly to the lifting wedge G.

3. We claim connecting the lever D, aud hammer K, by tbe spiral spring P, or its equivalent, the wbole constructed in the manner substantially as herein described and for the purposes as set forth.

83,624.—IMPROVEMENT IN SEEDING MACHINES.—Henry A. Gaston, of Stockton, Cal.

1. I claim the rotating fingers wben constructed to operate between fixed fingers f, of a grain sowing machine substantially as above described.

2. The combination and arrangement of the rotating sbaft D, and its fingers d, with the stationary fingers f, and the further combination and arrangement of the relief board H, witb the remaining iuternal machinery of a grain sowing machine, substantially as above described.

3. Tbe spur *c* in combination with the slice C, substantially as above described.

83,639.—IMPROVEMENT IN ROTARY SPADINO MACHINE.—Edward H. Kent, of Portland, Oregon.

I claim the spade bars E, moving in slots O, operated by pawls H, and lever L; also fastening the spade bars E, when extended outward in the slots O, of tbe cylinder B, by the latches D, falling in and out bebind the collars G, with the groovo M, on the sbaft N, and tbe concentric segment I, and combination of the various parts, as herein described and for the purposes set forth.

83,719.—IMPROVEMENT IN HORSE HOES.—Don Carlos, Matteson & Truman Paine Williamson, Stockton, Cal.

We claim tbe combination of the reversible double-edged cutter D, the pivoted bars C, C, and adjustable braces E, with a beam A, substantially as described.

83,742.—IMPROVEMENT IN BINDER FOR SEWING MACHINES.—William M. Stoddard, San Francisco, Cal.

I claim the two pieces, A, B, sbaped, bent, and otherwise constructed and arranged, substantially in the manner and for tbe purposes described.

83,775.—IMPROVEMENT IN CLOCK ESCAPEMENTS.—William C. Kellum, San Francisco, Cal.

1. I claim the detent lever D, with tbe locking screws e, e, the adjusting screw i, and the screw *m*, combined and arranged substantially as and for the purpose described.

2. In combination with the pallets a, a, and tbe locking screws or heads e, e, I claim the two parallel and symmetrical sets of escape teeth E, E, arranged and operating substantially as described.

Tbis improvement consists, first, in so constructing the detent lever tbat it locks by gravitation, or by spring; and second in the use of two sets of escape wheel teeth on the same axle turning in parallel planes, the impnlse being given to the balauce wheel by each set of teeth alternately, and in opposite directions, on the roller.

83,776.—IMPROVEMENT IN CLOCK ESCAPEMENT.—William C. Kellum, San Francisco, Cal.

1. I claim the impulse wheel D, on the same shaft with the escape wheel, D, and having teeth arranged to give an impulse in a direction the reverse of that given by tbe wheel D, substantially as described.

2. In combinatiou with the impulse and escape wheel D, and the reverse-impnlse wheel D, the double-head screw detent, substantially as described.

The nature of this invention is to provide an improved escapement for time-pieces, called a "Back Action Chronometer," and consists in so constructing the escape wheel or wheels, that there are two sets of escape teeth, moving about the samo axis, one of which gives its impulse directly to the impulse roller, while the other set of teeth are so constructed that as they pass tbe impulse roller, or pin, they give it a motion in tbe opposite direction from their own and from the backs of the teetb. We have before mentioned several improvements patented by the same inventor, relating to time pieces.

REISSUE.

3,179.—IMPROVEMENT IN PLOWS.—Patented March 12, 1867.—Don Carlos, Matteson & Trumau Pane Williamsou, Stockton, Cal.

We claim the curved standard A, with the lug B, and the off-sets, D and E, substantially as and for the purpose described.

California Academy of Natural Sciences.

REGULAR MEETING.

MONDAY EVENING, Nov. 16, 1868.

Vice President, Dr. J. G. Cooper, in the Chair, and nineteen members present. The President, Dr. James Blake, afterwards entered and took the Chair. Proposed for membership: J. J. Owens.

DONATIONS TO CABINET.

Dr. Gibbons, on bebalf of W. C. S. Smith, of Napa, prescnted a fossil bone which was exhumed in digging a well at a depth of twenty-six feet, five miles south of Antioch, and two miles from the coal mines; also, fossil teeth from the same neighborhood, thirty feet below the surface, and in twenty feet depth of solid rock.

Gregory Gale exhibited a specimen of sand taken from a fissure in Hayward's, which was caused by the earthquake.

Dr. Cooper presented, on behalf of Rev. S. D. Simons, a fossil sbell found in a beap of aspbaltum, whicb was being used for paving our streets. It is not known on this coast, and is remarkable for having no trace of lime left,—aspbaltum having takeu the place of every otber substance.

CHEMICAL ANALYSIS.

Mr. Louis Falkenau read a letter on "Cbemical Analysis," explaining the different methods and illustrating the same by means of chemical apparatus.

Tbe thanks of the Academy were tendered to bim for his lecture.

CONCERNING EARTHQUAKES.

A discussion concerning tbe earthquake took place, and it was stated tbat Dr. Farnsworth felt severe shocks on the 3d and 4th of Sept., in the Kern River country, while traveling on a trail from Independence to Visalia. He had encamped for the night in a cañon, and on the evening of the 3d, several slight shocks took place, but the next morning while at breakfast, a heavy sbock occurred which sent large boulders down the mountains on either side. In tbe space of one hour he felt forty shocks, and in three days 500. It was quite smoky at the time, altbough no forests were on fire.

Mr. Yale spoke of an old adobe building which, seveuty years ago, was a fortification against the Indians, but was now tbrown in all directions. He thinks if we had the proper means of estimating, we should find that our coast had been elevated. Dr. Gibbons thinks tbere are volcauic eruptions of steam or gases in subterranean caverns, which, not finding vent, rush along underground. Higb buildings are mnch safer tban low ones, as it bas been observed that the high structures bave escaped with little injury. It is explained by the fact of the vibration becoming deadened before reacbing the top; before the upper portion can respond to the motion it is met by the returning wave which counteracts tbe first. In Alameda, a water tank on stilts thirty feet higb was not disturbed, while oue ou the ground near by had the water thrown out violently.

The Academy adjourned at 10 o'clock. The next regular meeting will take place on Monday evening, Dec. 7.

THOSE spectacles advertised "lost," for which a very large reward was offered, were purchased at Muller's, 205 Montgomery street. *

WATCHES AT FAVORABLE PRICES.—Howard & Co., of New York, who are well recommended, offer to sell American Waltham watches on reasonable terms. *

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board.

SAN FRANCISCO, November 21, 1868.

Financial.

The very active demand for money noted in our last issue continues unabated. Deposits in our Savings and Loan institutions are very considerable, but not more than are constantly required for use. We see no reason to predict an easier money market for a steamer or two; neither is there ground to believe that it will be any more stringent. Much disinclination is shown to lend money on mortgages. Short loans on the best collaterals, repayable in monthly instalments, seem to be the only ones which find favor at present. Rates in bank rule at 1@1¼ per cent. per month for first class double endorsements; less acceptable paper pays 1½ per cent. Gold bars are quotable at 810@850, and silver bars from par to 1¼ per cent. premium. Currency bills on Atlantic cities are taxed 33⅓ per cent. premium on gold, and sight drafts, payable in coin, are negotiated at 1 per cent. premium; Telegraphic Transfers are effected at 1¼ per cent. premium; Sterling Exchange is made at 483¾@484; Commercial Exchange 491/2@493¾; Mexican Dollars command 3⅛@4 per cent. premium. Gold in New York on the 19th of November was 134⅛. In our local market Legal Tenders rule at 73¼@73¾. The steamer Continental arrived here from Mexico on the 16th November, with $275,000 in Mexican dollars. Independent of the efflux of treasure to the East, China and Japan, the Central Pacific Railroad draws from this city one million of dollars in coin each month, to pay the hands employed by the company, and as the field of operations is now quite remote, these sums do not find their way back very promptly; the tardiness of return being much greater in winter than in any other season of the year.

Our City Treasury contained about a million and a half of dollars on the 31st of October, while the State Treasury contains, probably, as much more. All this money is locked up from the requirements of business and helps to promote stringency. Large sums have also been invested in the White Pine mining district, and in other extensive operations distant from the commercial center. Immense stocks of cereals remain unsold in warehouse, the advances upon them having sought the agricultural districts, where they remain unemployed.

Our Branch Mint has been exceedingly active for the past three months, but is much more so at the present writing than at any other period this year. All the departments are taxed to their utmost capacity, and would be so were they twice as extensive. The principal coinage is in double eagles.

A new, elegant and commodious Branch Mint has been just erected at Carson City, Nevada. It is built of sandstone, quarried near the locality, and is described as being one of the finest edifices on the Pacific coast. The material is rather soft when first quarried, but hardens upon exposure to the air. The building is ninety feet front by sixty feet deep, and its architectural beauty is mentioned in terms of praise. The edifice alone cost $190,000 in currency, and with all its machinery and appliances in running order will cost a quarter of a million, currency. Fifty tons of machinery have been sent out, a part of it being on the way, to J. M. Eckfeldt, melter and refiner of the San Francisco Branch Mint, and will be put up, under his direction, in the Carson branch. It is not possible to form any estimate now of the amount of business which the new mint will be called upon to do. While some parties entertain the impression that the Carson branch will be kept quite busy, others think that it will be idle, and that the whole affair is a useless expense and unnecessary drain. Time will determine the question.

The rainy season may be said to have fairly set in with a soaking rain, which commenced on the evening of the 18th instant, settling the question of the next year's crop, and knocking the underpinning out from the croakers who have been predicting a season of drought and scarcity in 1869. There is reason to believe that it has been general and will render the soil available for tillage, while it ensures the germinating process of the seed already sown.

An idea of the increase of Stockton may be gathered from its real estate transactions during the past three years. The sales of real estate in that place for the first ten months of the current year are given at $825,000, against $654,000 for the same time last year, and $343,000 for the same time in 1866.

The California Pacific Railroad has been completed, and the cars are now running from Vallejo to Washington, opposite Sacramento. The steamer New World has been completely overhauled, and put in the best condition. She will soon take her place on the line between this city and Vallejo, to complete the connection.

On the 18th November the election for Directors of the P. M. S. S. Company took place in New York, when the following named gentlemen were chosen for the ensuing year: Allan McLane, Wm. Dennison, J. M. Brown, Howard Potter, A. A. Low, Francis Skiddy, Jonathan Thorn, William H. Webb and Sydney Mason.

The steamship Oregonian, late of the North American S. S. Company, arrived here on the 19th. She has been purchased by the P. M. S. S. Company. Under the rigorous direction of such men as W. H. Webb, Jonathan Thorn and Francis Skiddy, it is probable that the new line to Australia, via Honolulu, the Fejee Islands, around the south of Caledonia, and thence to Sydney, will be inaugurated at an early day. The schedule time from New York to Sydney is laid down at twenty eight days. An enterprise of this character must prove eminently beneficial.

The shipments of Treasure from November 1st to date (exclusive of Government account) have been as follows:

November 4—Per Japan—

To Obina	$761,076 44	
To Japan	20,000 00	
		$781,076 44

November 6—Per Constitution—

To New York	$191,565 66	
To England	114,933 08	
To France	50,968 37	
To Panama	15,000 00	
		372,467 11

November 11—Per Golden Age—

To New York	$220,183 98	
To England	106,054 89	
To Panama	10,000 00	
		336,238 87
Total since November 1st, 1868		$1,489,782 12
Previously this year		30,458,874 91
Total since January 1st, 1868		$31,948,657 03
Corresponding period 1867		35,954,583 98
Decrease this year		$4,005,926 95

City Stocks.

During the week under review we note the following sales in the Board of miscellaneous securities: 65 shares San Francisco Gas stock at $72 50@73; 82 shares Spring Valley Water at $65 60@65 per share. The North Beach and Mission R. R. Co. and Omnibus R. R. Co. have passed their dividends for the present month. At the close, North Beach and Mission Railroad Company sold at $65 50.

Mining Share Market.

The market for mining shares exhibited considerable activity during the period under review, sales of a few leading stocks being very large. The tendency has been toward improved rates, and a somewhat healthier feeling prevails at the close. Our information concerning the Comstock claims is comparatively meagre, nothing of any special interest having transpired since our last weekly reference.

IMPERIAL—ruled at $90@100, and at the close sold at $98. The three first shipments of bullion during the current month aggregate $18,968, against $19,197 same time in October. In reference to the condition of the mine we learn that the drift running west on the 900 level, near the Imperial north line, is in quartz and porphyry. The main shaft has attained a depth of 1,057 feet from the surface, work progressing at the rate of two feet per day. The drift on the 750 level, Alta mine, has been run north from winze 75 feet, and they are now cross cutting east from said drift, which is reported to be in barren quartz. The ore supply from the 700 level up continues about the same. They extract about 140 tons per day from the Alta mine.

CROWN POINT—opened at $42, declined to $38 50, improved to $43, and closed at $44. Advices of the 15th inst. state that the 850 track floor has been carried north nearly to the north winze, and is showing a body of fair ore all the way. The stopes above the 850 level exhibit no change since previous report. Sinking in the shaft goes down slowly. The winze commenced on 900 level, just north of south winze, had to be abandoned on account of a large amount of water that came in at the depth of nine feet. A small seam of ore is reported to have been encountered in this winze, but at the time of abandonment gave out, and the bottom was in porphyry and quartz, with little or no ore. The first shipment of bullion for October account amounted to $10,320.

GOULD & CURRY—sold during the week at $70@82. The Bonner shaft has been sunk seven feet during the week ending Nov. 14th, the material extracted being the same as previously reported. At the close of the present week they intended to make the seventh station, as before reported. They continue to take considerable ore from the croppings, 52 tons of good mill ore having been extracted during the period under review.....KENTUCK advanced from $195 to $247 50, and closed at $246. The bullion returns for November account to the 16th amount to $16,081.

CHOLLAR-POTOSI—sold within a range of $128 50@143 50, closing at $142 60. On the 17th inst. this company received $14,006 86 in bullion. For the week ending 13th, extracted 1,140 tons of ore. As the work is carried up in the Blue Wing stope, the ore stretches out to the north and south. In the new shaft sinking continues in hard rock. The drift going north has become softer, but the cross-cuts east and west are in very hard porphyry.

AMADOR—sold at $210@217 50. The first clean-up for November shows a bullion product of $24,000. A dividend of $4 per share was paid on the 20th.....EUREKA disbursed a dividend of $5 per share on the 20th inst.

OVERMAN—has been pretty active, selling at 48@42, then at $45, and closing at $46. On the 12th inst., $3,415 in bullion was shipped here, and on 17th, $2,861. An assessment of $20 per share was levied on the 13th inst. ....SIERRA NEVADA levied an assessment of $12 50 per share on the 16th inst.

ALPHA—declined from $33 to $30, advanced to $38, and closed at $37 50. A connection has been made by this company with the Imperial on the 940 level. The raise from the 940 level is reported to look very well, and the drift on the same level is said to be in very good looking quartz. The face of this drift is 83 feet from the main drift, or 163 feet north of the south line....OPHIR advanced from $18 to $25, and closed at $23. The new shaft is now 539 feet in depth.

SAVAGE—has been quite largely dealt in, over 8,000 shares having changed hands within the past week, selling at $69 60@62 50, then at $70 50, and closed at $69 50. ....YELLOW JACKET has also been in better request, rising from $825 to $1,200, and at the close reahzing $1,195.

The sales in the Board during the past week amounted to $1,703,207.

THE LUMBER TRADE SUDDENLY INCREASES.

During last week an unusually large amount of lumber arrived at this port, mostly from the Mendocino and Humboldt mills. On Saturday last there were received here not less than 4,285,000 feet of lumber and 505,000 laths. It is not improbable that the late earthquake has had something to do with this, as it undoubtedly created a very general preference for wooden houses to live in.

News can now be telegraphed from Hongkong to San Francisco, by way of Europe, in ten days.

MINING SHAREHOLDERS' DIRECTORY.

(Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.)

comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE
Amador Co., dividend, $5 per share	Payable Nov. 20, 1868	
Bullion, Aug. 19, $10	Payable immediately	
Bacon, Storey co., Nev., div	Payable June 19, 1868	
Belcher, Storey co., Nev., Oct. 6, $25	Nov. 6—Dec. 8	
Chipiononn, Mexico, Nov. 6, $2.50	Dec. 11—Dec. 28*	
Cherokee Flat, Butte co., Oct. 20, $5	Nov. 23—Dec. 9	
Cordillera, Mex., Oct. 16, $1	Nov. 18—Dec. 7*	
Chollar-Potosi, div., $25	Payable Oct. 15, 1867	
Crown Point, dividend, $7.50	Payable Sept. 12, 1868	
Colorado, Arizona	Annual Meeting Dec. 28*	
Diamond cop., Del Norte co., Oct. 28, $2	Nov. 10—Dec 28*	
Fegus, Amador co	Annual Meeting Nov. 28*	
Fegus, Amador co., Oct. 23, $2.50	Nov. 24—Dec. 12*	
Eureka, div. $5	Payable Nov. 20, 1868	
Empire M. & M., Nev., dividend $6	Payable May 15, 1867	
Gould & Curry, div., $7.50	Payable May 15, 1867	
Gold Hill Q M & M—dividend, $7 50	Payable July 13, 1868	
Golden Rule, Tuolumne co, div 50c ₱ sh	Payable Aug. 23*	
Great Central, Arizona, Oct. 9, $2.50	Nov. 11—Dec. 30*	
Gold Hill Tun., Storey co., Nev. Oct. 9, $2	Nov. 18—Dec. 9*	
Glenwood Mill, El Dorado co., Oct. 10, $50	Nov. 20—Dec. 9*	
Hale & Norcross, div. $125	Sept. 16, 1867	
Hale & Norcross, Virginia, Oct. 12, $10	Nov. 14—Dec. 5	
Hope Gravel, Nevada co., Nov 18, $1	Dec. 22—Jan. 11*	
Imperial, Storey co., Nev., div	Payable June 20, 1868	
Julia, Storey co., Nev., Oct. 22, $1.50	Nov. 25—Dec. 14	
Kentuck, div., $20 per share	Payable Nov. 10, 1868	
Kentuck, Storey co., Nev	Annual Meeting Nov. 25	
Kearsarge, Inyo co	Annual Meeting Nov. 26	
Maxwell, Amador co., Nov. 13, $2.50	Dec. 14—Jan. 5	
Mt. Teraho, Lander co., Nev	Annual Meeting Nov. 26*	
Morning Star, Alpine co., Sept. 25, $2.50	Nov. 2—Nov. 23	
North Star, dividend, $5	Payable Aug. 15, 1868	
Nevada County M. Co., $1	Nov. 18—Dec. 19*	
Overman, Storey co., Nov. 13, $20	Dec. 16—Jan. 4	
Ophir, Storey co., Nev., Nov. 9, $3	Dec. 12—Jan. 2	
Oriental, Sierra co., Nov. 9, $2	Dec. 14—Dec. 30	
Pacific Unassessable, div	Payable June 18, 1868	
Quail Hill, Calaveras co	Annual Meeting Nov. 28	
Rattlesnake, Yuba co., Oct. 13, $2	Nov. 18—Dec. 7*	
Rising Star, Idaho, Sept. 11, $7.50	Oct. 24—Nov. 25	
Rippon, Alpine co., Oct. 15, $1	Nov. 28—Dec. 17*	
Santiago, Silver City, dividend, $2	Payable Nov. 20, 1868	
Senator, Storey co., Nev., Nov. 2, 50c	Dec. 4—Dec. 24*	
Savage, Virginia, Nev, dividend, $5	Payable Oct. 10, 1868	
Sand Spring Salt, dividend $1	Payable June 5, 1868	
Tallulah, Humbolt co., Nev	Annual Meeting Nov. 25	
U. S. Grant, Nevada co., Nov. 9, 50c	Dec. 15—Jan. 2*	
Virginia & O. H. Water Co., Dividend, payable Nov. 20, 1868		
Yellow Jacket, div., $300	Payable Nov. 10, 1868	

*Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD.

FRIDAY EVENING, NOV. 20, 1868.

MISCELLANEOUS STOCKS.	Bid.	Asked.
United States Bonds, 5-20s	$ 80	81
Legal Tender Notes	73¼	73¾
California State Bonds, 7s, 1857	95	95
San Francisco Bonds, 10s, 1851	par & int.	
San Francisco City Bonds, 6s, 1855	—	—
San Francisco School Bonds, 10s, 1860	100	—
San Francisco School Bonds, 10s, 1861	par & int.	
San Francisco City and County Bonds, 6s, 1858	85½	—
San Francisco City and Co. Sch'l Bds, 7s, 1866	90	—
San Francisco City and Co. Bonds, 7s, 1863	90	91
San Francisco City and Co. Bonds, 7s, 1864	90	—
San Francisco City and Co. Bonds, 7s, 1865	90	—
San Francisco City and Co. Judg. Bds, 7s, 1863	90	—
San Francisco City and Co. Judg. Bds, 7s, 1864	90	—
Sacramento City Bonds	23	25
Sacramento County Bonds, 6s	70	73
Marysville Bonds, 10s	75	80
Stockton City Bonds	60	70
Yuba County Bonds, 8s	77	78
Santa Clara County Bonds, 7s	75	77
Butte County Bonds, 10s, 1860	70	75
San Mateo County Bonds, 7s	75	80
California Steam Navigation Co	51	52½
Spring Valley Water Co	66	65⅝
State Telegraph Co	20	—
GAS COMPANIES.		
San Francisco Gas Co	73	—
Sacramento Gas Co	—	75
RAILROADS.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	70	—
Central Railroad	55	58
North Beach and Mission Railroad	66	68
Front Street, Mission and Ocean Railroad	11	12
BANKING INSTITUTIONS.		
California, Loan and Savings Society	—	—
Pacific Bank	97½	100
The Bank of California	157	158
INSURANCE COMPANIES.		
Firemans' Fund Insurance Co	92½	94
Pacific Insurance Co	124	125
San Francisco Insurance Co	—	105
Merchants' Mutual Marine Insurance Co	500	525
California Insurance Co	1200	1400
Union Insurance Co	92	93
California Home Insurance Co	—	—
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	72	—
National Insurance Co	72	—
Builders' Insurance Co	—	—
MINING STOCKS—WASHOE DISTRICT.		
Alpha	37	37½
Baltimore American	136	137
Belcher	120	125
Bullion, O. H	13	15
Crown Point	43	44
Confidence	27½	29
Chollar-Potosi	142½	143
Daney	4	—
Exchequer	17	17½
Empire Mill and Mining Co	—	—
Gould & Curry	76	80
Gold Hill Quartz	60	60
Hale & Norcross	62	63
Imperial	98	99
Kentuck	240	247
Lady Bryan	4	—
Ophir	23	23½
Overman	45	45
Savage	69¼	70
Sierra Nevada	11	18
Yellow Jacket	1195	1200
Golden Rule, California	6	—

San Francisco Market Rates.

Wholesale Prices.

FRIDAY, NOV. 20, 1868.

Flour, Extra, ₱ bbl	$5 50	@	$6 00
Do. Superfine	4 76	@	6 25
Corn Meal, ₱ 100 lbs	3 25	@	3 50
Wheat, ₱ 100 lbs	1 50	@	1 80
Oats, ₱ 100 lbs	1 95	@	2 00
Barley, ₱ 100 lbs	2 05	@	2 25
Beans, ₱ 100 lbs	3 00	@	4 00
Potatoes, ₱ 100 lbs	50	@	1 00
Hay, ₱ ton	6 00	@	10 00
Live Oak Wood, ₱ cord	9 00	@	10 00
Beef, extra, dressed, ₱ lb	8	@	10
Sheep, on foot	3 00	@	3 26
Hogs, on foot, ₱ lb	4½	@	5
Hogs, dressed, ₱ lb	8	@	—

GROCERIES, ETC.

Sugar, crushed, ₱ lb	—	@	15¾
Do. China	9	@	10
Coffee, Costa Rica, ₱ lb	16	@	16¾
Do. Rio	—	@	16¾
Tea, Japan, ₱ lb	75	@	90
Do. Green	60	@	1 25
Hawaiian Rice, ₱ lb	9	@	10
China Rice, ₱ lb	6	@	7
Coal Oil, ₱ gallon	35	@	40
Candles, ₱ lb	15	@	18
Ranch Butter, ₱ lb	60	@	75
Isthmus Butter, ₱ lb	30	@	40
Cheese, California, ₱ lb	15	@	20
Eggs, ₱ dozen	70	@	75
Lard, ₱ lb	13	@	14
Hams and Bacon, ₱ lb	14	@	18
Shoulders, ₱ lb	6	@	8

Retail Prices.

Butter, California, fresh, ₱ lb	80	@	90
do. pickled, ₱ lb	30	@	40
do. Oregon, ₱ lb	20	@	25
do. New York, ₱ lb	35	@	45
Cheese, ₱ lb	20	@	25
Honey, ₱ lb	25	@	30
Eggs, ₱ dozen	90	@	1 00
Lard, ₱ lb	15	@	17
Hams and Bacon, ₱ lb	20	@	25
Cranberries, ₱ gallon	85	@	1 00
Potatoes, ₱ lb	1½	@	2
Potatoes, Sweet, ₱ lb	3	@	—
Tomatoes, ₱ lb	3	@	—
Onions, ₱ lb	3	@	—
Apples, No. 1, ₱ lb	4	@	5
Pears, Table, ₱ lb	5	@	7
Plums, dried, ₱ lb	11	@	13
Peaches, dried, ₱ lb	—	@	—
Oranges, ₱ dozen	75	@	1 00
Lemons, ₱ dozen	1 00	@	1 50
Chickens, apiece	50	@	75
Turkeys, ₱ lb	20	@	25
Soap, Pale and C. O	7	@	12
Soap, Castile, ₱ lb	18	@	—

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

FRIDAY Nov. 20, 1868.

IRON.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1¾@1¾c ₱ lb; Plate, 1¾c ₱ lb; Pipe, 1¾c ₱ lb; Galvanized, 2¾c ₱ lb.

Scotch and English Pig Iron ₱ ton	$35 00	@	$36 00
White Pig ₱ ton	— —	@	36 00
Refined Bar, bad assortment, ₱ lb	— 03	@	— —
Refined Bar, good assortment, ₱ lb	— 04	@	— —
Roller, No. 1 to 4	— 04¾	@	— —
Plate, No. 5 to 9	— —	@	— 04¾
Sheet, No. 10 to 13	— 04¾	@	— 5
Sheet, No. 14 to 20	— 05	@	— 5¾
Sheet, No. 24 to 27	— 05	@	— 6¾
COPPER.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb			
Sheathing, ₱ lb	— —	@	— 26
Sheathing, Yellow	— 20	@	— 21
Sheathing, Old Yellow	— 10	@	— 11
Bolts	— 21	@	— 22
Composition Nails	— 21	@	— 22
TIN PLATES.—Duty: 25 ₱ cent. ad valorem.			
Plates, Charcoal, IX, ₱ box	12 00	@	— —
Plates, I Charcoal	— —	@	11 00
Roofing Plates	10 00	@	10 50
Banca Tin, Slabs, ₱ lb	— —	@	— 30
STEEL.—English Cast Steel, ₱ lb	— —	@	— 15
QUICKSILVER.—₱ lb	— 55	@	— 60
LEAD.—Pig, ₱ lb	— 7¾	@	— 8
Sheet	— 10	@	— —
Pipe	— 11	@	— —
Bar	— 9	@	— 9¼
ZINC.—Sheets, ₱ lb	— —	@	— 9¾
BORAX.—California, ₱ lb	— 20	@	— 23

NEW INCORPORATIONS.—Articles of incorporation have been recently filed in the County Clerk's office in this city as follows:

CITY PAVING CO.—San Francisco, Nov. 14th. Capital stock, $500,000. Trustees: Charles E. McLane, Wm. Alvord, Robert C. Page and Henry F. Williams.

TAMALPAIS LUMBER CO.—Marin county. Nov. 15th. Capital stock, $1,500,000; 1500 shares, $100 each. Trustees: S. F. Butterworth, Alvinza Hayward, W. C. Ralston, Lloyd Tevis, W. E. Barron, L. L. Robinson and Charles Webb Howard.

SAN FRANCISCO LAND CO.—San Francisco. Nov. 17th. Capital stock, $5,000,000; 20,000 shares, $250 each. Trustees: E. C. Boorhar, Geo. R. Cutbirth and Trustum C. Gilman.

EUREKA SOUTH.—Our agent, who recently visited this mining town in Amador County, reports the miners busy preparing for winter. Every one seems to have great confidence in the richness of the mines. A larger population and lively times are anticipated in the spring.

NEW HALL OF THE Y. M. C. A.—A fine library building with lecture room has been erected on Post street, by the Young Men's Christian Association. It was dedicated on Tuesday evening, Dr. Eells delivering the address.

COAST STORMS.—Along the Mexican Coast they have just experienced the most severe storm, attended by rain, that they have had for forty years. Scarcely a trace of it was observable in this latitude.

OREGON CLIMATE ADAPTED TO SILK CULTURE.—Dr. William Kohler, of Portland, Oregon, says he has found that climate suitable for the raising of healthy cocoons, and for silk culture.

CONCERT AT WOODWARD'S GARDENS.—The proprietor of these beautiful gardens is now giving a series of concerts, commencing every Thursday at 1½ o'clock P.M., under the direction of Prof. Joseph Schmidt. The Sunday concert as usual. *

A CORRESPONDENT of the American Institute Farmer's Club says relative to the names of "Timothy" and "Hurd's" grass, that it was called foxtail in England, and was brought from England to Rhode Island by Timothy Hurd.

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County.

Markleeville *Miner*, Nov. 7th: The Rippon Co. have levied an assessment of $1 per share.

We have learned from one of the stockholders in the Tarshish mine, that the company has under consideration a plan which will soon put the mine running and a mill in process of construction.

Star matters are delayed somewhat by the non-arrival of some portion of the minor machinery about the hoisting works. Supt. Gamble assures us he could have been ready to start the engine early next week but for this delay. Meantime two 4-horse teams are hauling ore from the mine to the Pioneer mill.

Amador County.

Jackson *Ledger*, Nov. 14th: The Seihenthaler mine is now down to the strong water level, and will probably require steam hoisting works before it can be worked deeper. The south drift is in over 100 feet, and the ore still comes up to its high standard.

The Thoss sulphuret works are turning out their regular weekly bricks, and still maintain their reputation as the most successful works in the State.

Steam hoisting works on a magnificent scale are now in process of erection on the Summit mine, and our old friend Jo. Swift insists that he will make them the best in the county.

As the rainy season approaches, work on the mines is pushed ahead with renewed vigor.

The hoisting works on the Anaconda are up and inclosed, and the engine set and secured from the weather. In ten days or two weeks the shaft will be completed and everything ready for work.

The Vaughn mine tunnel is still being pushed ahead with evident signs of the pay chimney near at hand.

Dispatch, Nov. 14th: The quartz mines in this vicinity still continue to "shell out" an abundance of "oro."

The rock recently taken from the Summit mine, near Sutter Creek, is much richer than any that has heretofore been struck in that vicinity. The company have determined to erect steam hoisting works on the claim, the boiler for that purpose being now on the ground. We also learn that there are other newly discovered claims in that vicinity which yield very flattering prospects, and upon some of which arrangements have already been made to erect steam machinery for hoisting, etc.

Butte County.

Oroville *Record*, Nov. 14th: The quartz mining interest of Butte is rather reviving than otherwise. Mr. Slater has recently erected a steam quartz mill on the Carleton ledge near Forbestown. The famous Jenny ledge, of Granite Basin, seems to have suspended for the season. The Halstead mill, in the same locality, but on another ledge, has yielded very well. We learn also that the Jordan mill and mine, near Yankee Hill, is to be again put in operation. The contract has also been let for the erection of a new mill on a ledge that prospects very rich in the vicinity of Mineral Slide. Mr. Edward Pond, of San Francisco, and others are interested, and Geo. Swift is superintending its construction. Quartz ledges are as numerous in this as in any other county in the State, and we believe as rich. But few have been prospected, and they not to any considerable extent, and less have been worked.

Calaveras County.

The Murphy's correspondent of the Mokelumne Hill *Chronicle* of Nov. 11th, says: At Angels' Camp you can hear the music of 66 stamps pounding out the precious metals, night and day. The above number of stamps are run by four mills—three by steam and one by water power. The mines are worked from depths varying from 200 to 300 feet, and are all paying well; so I think that Angels Camp bids fair to become one of the most flourishing in Calaveras County in a few months. There are several other claims there that are expected to be worked soon.

My next stopping place was Vallecito. There is but little mining of any kind going on there. Only one claim of importance; that is the company which run a tunnel from Coyote Creek into the Flat. They are at present making great preparations for working their claim by hydraulic washing, when they expect large returns. I then moved on for Murphys passing through Douglass' Flat. There are several very good claims, all deep diggings, at Douglass' Flat. The hoisting and pumping is done by overshot water wheels.

Inyo County.

A new process of working ores is proposed, and being tried by a miner of this county, which, so far, consists in placing the quartz or gold rock, as the case may be, dry crushed into an iron cylinder, with a quantity of mercury, and applying a low degree of heat to the whole. The cylinder is then made to revolve rapidly. The new method is said to work well in small quantities, and the inventor says he is sure of being able to work much larger quantities, when suitable machinery is erected.

Los Angeles *News*, Nov 13th: There are now on the road from Owen's River, several wagons loaded with silver ore and bars. This ore is smelted on the river. The metal contains enough lead to pay all expenses of mining, smelting, transportation to San Francisco, cost of separation, commissions, etc., leaving the silver a clear profit, amounting to over $100 per ton. The shipments are becoming quite frequent from Owen's River to this city, and is a tangible evidence of the richness of the mines.

Since writing the above, we learn that Messrs. Eakin and Gray have arrived in this city, bringing with them 11,000 lbs. of silver and lead bullion, from the Cerro Gordo mines, worth about 40 cts. per lb.

Mariposa County.

Mail, Nov. 13th: Walcoch, Johnson & Co. struck a rich pocket of quartz in their claim, near Hunter's Valley, last week. Report has it that they have taken out $100,000 up to this time.

Gazette, Nov. 13th: The Maggie Russel vein which is situated near the Merced river about a mile below the Benton Mills, and which was recently purchased by Wilcox & Keyton, of Bear Valley, is at present turning out very rich rock, and the prospect becomes more flattering as they sink upon the vein. The proprietors intend to erect a new 8-stamp water power mill, the machinery for which is now about completed.

Nevada County.

Gazette, Nov. 12th: A crushing of seven loads of quartz from the Dromedary mine was cleaned up Tuesday, and yielded $420.

Nov. 14th The mining ground extending up from the south of Little Deer Creek to a point near Canada Hill, a distance of over a mile, was sold yesterday to Ah Chow & Co., Chinamen, for $2,500. The sale includes nearly all of the Head, Morrow and McElvey claim, which has been worked more or less for 18 years. It has yielded an immense amount of gold, and been owned by many different parties, but has never before fallen into the hands of the Celestials.

Grass Valley *National*, Nov. 9th: The John Bright mine is situated south of the Ione, and one of the most promising ledges in the neighborhood. The last crushing of 65 loads was cleaned up at the Gold Hill mill on Saturday last, and yielded $1,730.50, an average of over $28 per ton. This is the fifth crushing from this ledge, and all of them have paid well, running from $28 to $50 per ton. A tunnel of 180 feet in length has been run on the ledge, and there is work ahead now for four years at least.

Nov. 11th: We have the following from the Coe mine: At a depth of 150 ft. on the incline the ledge is from four to five feet ft. thick and the rock will pay, on an average, $30 per ton; at a depth of 200 ft. the ledge will average three ft. in thickness, and the rock will pay as high as $40 per ton. About 20 tons of rock are taken out in 24 hours, and from 16 to 18 tons are crushed daily by a 10-stamp mill located on the ground.

Nov. 14th: N. K. Lamson has contracted for putting 10 additional stamps at the Coe mine. They are to be put up within thirty days. The mine is 2,550 feet in extent. They are now down 360 ft., and drifting on the first and second levels. The ledge in the west drift is over four ft. thick; gold can be plainly discerned in the rock, and the sulphurets are plenty and rich. Pending the erection of the additional stamps, their rock will be crushed at the Gold Hill mill. A contract has just been let on the Aspinwall, an adjoining ledge east of the Coe.

Grass Valley *Union*, Nov. 11th: Large loads of quartz constantly go through town on their way to the custom mill below, by which we judge that the upper portion of the district is being actively prospected.

Excelsior.—*Transcript*, Nov. 10th: The Mohawk and Montreal mine, in Meadow Lake township, is yielding first rate. On the 2d inst. they struck, in the east drift, upper shaft, a stratum of sulphurets from 15 to 18 in. wide, which averaged $176.80 to the ton. These sulphurets were tested by the chlorine process and yielded at the rate of $212.50 to the ton. The company is satisfied with the permanency and richness of the ledge, and propose to work it continuously all winter. The mill is now running, and the amalgam upon the plates looks first-rate. They will have a clean up about the 12th or 15th. The first snow storm of the season, at the mine, occurred on last Thursday, covering the ground to the depth of nine inches. The weather has since been fine but decidedly wintry.

Sierra County.

Downieville *Messenger*, Nov. 14th: Kime & Davis have taken a contract to erect a quartz mill on a ledge several miles below Alleghany. The mine is well prospected and the prospects are excellent.

The Grass Valley *National* of Nov. 19th, says: John Greenbank, an old Grass Valleyan, gives us the following items respecting the Alaska mine, at Pike City, Sierra County, of which he is the amalgamator. The owners have located 2,000 ft., and a shaft 146 feet in depth, running with the vein, has been sunk. The ground has been soft, easily worked with the pick, and no blasting has ever been required. They have been running west most of the time; running east no ledge was found for 200 ft., but last Saturday it was struck and yielded very rich rock. The rock has paid from $12 to $200 per ton, from the surface down. They have a small, 5-stamp prospecting mill, with which 350 tons have been crushed yielding over $13,000, without the sulphurets, which are very rich, having assayed $380 to the ton.

Trinity County.

Weavervillo *Journal*, Nov. 14th: Jas. Johnson picked up a 30-oz. chunk in his claim in Little Pappose Creek, about two weeks since. The piece was worth $500.

McGillivray is pushing work on his ditch from Cañon Creek, and it will be completed to opposite Independence Bar by the commencement of winter.

Yuba County.

Marysville *Appeal*, Nov. 17th: The Pennsylvania mine is under the management of S. Cumming. Incline No. 2 has been closed, and all the work being done is in the old incline, where a ledge believed to be rich has recently been partly developed. On the strength of this discovery the stock of the company has recovered somewhat, there being inquirers for it at figures higher than at any time since the last assessment. Stockholders are again hopeful.

ARIZONA.

Prescott *Miner*, Oct. 31st: Weaver, or Antelope Hill diggings, in this county, are famous for producing big nuggets of the yellow gold. Deputy Sheriff Taylor showed us the other day some beautiful specimens that were recently dug out of the old diggings.

At last accounts the Sterling mine was looking good, and work upon the furnaces, etc., was progressing finely.

The shaft in the Teshatticup mine, at El Dorado Cañon, is sunk on the main ledge to the depth of 100 feet, and a tunnel between 200 and 300 feet in length connects with the shaft, but for a year or more it has been lying idle, owing to some disaffection among the owners. The last hundred tons taken from the mine and crushed, without assorting, yielded over $100 per ton. Recently, the firm of Stephen Otis & Co., of San Francisco, who own a 10-stamp mill at the mouth of the cañon, leased the mine, and have now 16 men engaged in getting out rock. The rock that they are now extracting is reported to be immensely rich in silver. It is strictly a silver ledge, and is considered by persons in that vicinity second to no other mine on the Pacific slope.

The San Francisco Moss Ledge Co., in Mohave County, have erected a 10-stamp mill on their mine at a cost of $30,000. During the erection of the mill they succeeded in running a tunnel between 200 and 300 feet, striking the main ledge at a depth of about 80 feet. A great many tons of rock were taken out and hauled to the river and crushed, but with what result, outsiders were never able to find out. It was evident that the mine did not pay, as they soon suspended operations, and the mill has been lying idle for about one year.

COLORADO.

Central City *Register*, Oct. 29th: Black Hawk never looked better than at present. Its streets bustle with business, while its quartz mills are stamping out the precious stuff from day to day.

The mines at Empire are producing over $800 per week.

Mr. Gorton, who is putting up a new furnace near the Franklin mine, for the purpose of smelting its ores, will have it ready to run in about two weeks. The mine is being worked day and night, and now has about 300 tons of ore out.

The Georgetown correspondent writes: The Terrible lode continues to roll out very rich ore in as large quantities as ever. The working shaft is now down 80 ft., and levels have been run both ways from the shaft, the east level being 120 ft. in length, and the west level 80 ft. In both these levels, as well as down the shaft, the pay vein, has averaged 10 inches in width, and the ore is worth from $500 to $700 per ton at the shaft. The ore is now crushed and dressed at the shaft, and most of it is shipped east for reduction. The purest of the ore is simply hammered-dressed, and the second quality is crushed and jigged.

Prof. Martine has shown us some very rare and remarkable specimens of silver ore from this vicinity. One specimen from the Wm. B. Astor lode, which resembles a partially decomposed galena ore, containing numerous specks of some decomposed mineral of a reddish brown color, yields 48 per cent. of silver.

Another singular specimen is a piece of pure galena that yields 11 23-100 per cent. silver, or $42.11 per ton. The sample has been very carefully examined by several experts, and is pronounced by all a true, pure galena ore.

Dr. Seaton is steadily progressing with his Mason process in the McIntyre mill at Mill City.

The mill in Lake Gulch, owned by Cheney & Hill, is now crushing ore from the Gardner lode on Quartz Hill, averaging about six cords per week.

Several promising lodes have been discovered near Mill City, the ore from some of which assays very largely in silver.

MONTANA.

Helena *Post*, Oct. 30th: We saw in the First National Bank yesterday evening, 13 pigs of silver bullion, weighing 483 lbs., the result of the last clean up in the St. Louis and Montana Mining Co's mill at Phillipsburg. The rock from which this was produced came from several different lodes.

Confederate Gulch has not yet ceased astonishing the natives. Maj. Davenport informs us that on Tuesday last there was found in the claim of Messrs. Ingram & Co., a nugget worth $490.

We learn from Highland district as follows: Professor Swallow having completed his mill, is to start up crushing rock from the Ballarat and Forest Queen lodes tomorrow. His mill is one of the best arranged in the Territory, is furnished with Wheeler's pans and all the contrivances to save gold. All the arastras in that section are in full operation, and present prospects indicate future success.

The correspondent at Summit gives the following: Dr. O'Neal has commenced sinking a shaft on claim No. 1, on the Ora Cache lead, with prospects of striking rich quartz within a few days.....The John How tunnel is still being run. It is now 500 feet in length, and it is supposed that 75 feet more will bring it to the ledge.... A shaft 200 feet in depth has been sunk on the Kearsage, and work upon it is still in progress.

At Sterling, work has been resumed upon many of the abandoned lodes, with great promise of abundant results. The Red Bluff opens very rich. Large quantities of fine ore are taken from the Convoy, and several other lodes are yielding largely. Prof. Ward is about to return to the Territory with the intention of recommencing operations.

Alder Gulch will produce a larger yield of gold than any season since 1865. The recent reports of rich gulch diggings in Ram's Horn district are fully confirmed; and these, with the promises given by Summit, Hot Spring, Rochester, and Silver Star, in quartz, gives assurance of great activity at the capital next year.

IDAHO.

Owyhee *Avalanche*, Nov. 7th: The Golden Chariot mine continues to yield as largely as ever.

The Lincoln mill is undergoing a thorough and substantial renovating. Mr. Wilson informs us that they will be ready to start up again sometime between the 11th and 15th inst. It will run on the far-famed IdaE lmore ore.

NEVADA.

Humboldt.

Winnemucca *Argent*, Nov. 14th: The Willow Creek placer mines prospect from four to six cents per pan. A district called Willow Creek has been formed and laws enacted to govern it. Claims, 300 feet each. Many locations have been made, extending from the upper stage road for a mile above. A few claimants are prospecting their claims now with a view to systematic work next spring.

The prospecting done shows a 5-foot bed of gravel, and the evidences of a heavy wash through the cañon. The mountain range is of slate formation, and contains many large quartz veins, but none bearing much mineral has been discovered. This range is said to present the most favorable indications of placer mines of any in the State.

S. Kunkel & Co., at Battle Mountain, are taking out and shipping ore to San Francisco, which abounds in horn silver and a black silver ore which assays high up in the thousands per ton, and all the ore gives large results. The mine is 3½ miles from the depot, and is supposed to be a part of the Union Series. Kunkel & Co. are running a tunnel in the vein, and it is now in 120 feet, with a well-defined ledge at all points. Some ore brought to our office from the extreme end of the tunnel, shows much horn silver. Tuesday last eleven tons were shipped for San Francisco, and from returns before received and the developments in the mine, there can be no doubt but ore shipments will continue to be made and in increased amounts. The Little Giant mine at Battle Mountain is keeping up its rich reputation. Atchison's mill recently started up on ore from it, and G. W. Fox passed the other day with $7,000 worth of bullion. Other ores from this district have been tried by mill process and show large yields.

The Gold Run mines continue to improve in appearance, and the average yield of the Golconda ore is increasing as well as is the fineness of the bullion.

Unionville *Register*, Nov. 14th: Fall & Co. shipped this week, per Wells, Fargo & Co's express, 2,000 ounces of fine bullion.

Arrangements have been made to prosecute operations on the Seminole mine.

Virginia *Safeguard*, Nov. 15th: Speaking of the Battle Mountain district it says: In the district there are many other claims accounted good, which are being developed as rapidly as work can accomplish that result. We were shown the other day by Mr. Adams, an experienced prospector, the result of assays from several undeveloped claims which ranged from $100 to $250 per ton. Copper ore is found in great profusion at the base of the Battle Mountain range. There are about 40 men in the district, all actively engaged in prospecting.

Virginia *Enterprise*, Nov. 11th: Bousefield & Co., assayers in this city, yesterday received a very fine lot of silver bullion for melting and for assay, from the Little Giant mine, Battle Mountain, Humboldt County. The lot of bullion was the result of a crushing of 31 tons of ore worked at Atchison's mill, near the mine, and weighs 443 pounds, which has been molded into five beautiful bars. The total value of the bars is $7,616.80, being at the rate of $545.69 per ton, The average value per ounce of the five bars, $1.27, and the average fineness, .981—the bullion contains no gold. The Little Giant mine is the property of Messrs. Fox & McBeth, and although an outside mine (outside of White Pine?), it appears to pan out about as well as some of our "inside" mines. The bricks may be seen to-day on the counter of the Bank of California, in this city.

Reese River.

Austin *Reveille*, Nov. 6th: Six bars of bullion, of the average fineness of .981, and valued at $8,364.65, were brought into this city yesterday from the Monte Cristo mill at White Pine.

We saw a fine lot of bullion to-day at the National Bank, which had just been brought into the city from the district of White Pine. The lot consisted of 28 bars which were valued at $41,884 59. It was produced at the Oasis mill, formerly belonging to Gen. Page, but now the property of the Ebenhardt Co.

Nov. 9th: Seven bars of bullion, valued at $9,840.85, were brought into this city to-day from the Centenary mill at Newark.

Nov. 10th: Yesterday the first bar of silver produced by the mill of the Quintero Co. in the district of Northumberland, was attached in three suits by workmen for labor. The bar was valued at some $1,100. The mill had just been finished, but it was attached a few days ago by P. M. Elder for about $3,000.

Nov. 11th: We saw to-day at Paxton & Co's bank 12 bars of bullion, averaging .976 fine, and valued at $19,059.75 which were brought into this city last night from White Pine. They were produced by the Oasis mill of the Ebenhardt Co.

Yesterday afternoon David Lundbom received 4,202 ounces of bullion for assaying from the Old Dominion Mill at Hot Creek.

Nov. 12th: We saw to-day at the assay office of David Lundbom six bars of bullion, averaging .965 fine, and of the value of $7,568.67, which were brought into the city from the Monte Cristo mill at White Pine.

We learn that Col. Buell's mill at Belmont, which has been thoroughly repaired and furnished with roasting furnaces, was set in motion on Tuesday the 10th instant. There is every prospect of a full supply of ore from the Highbridge, Pennsylvania and El Dorado mines.

Virginia *Enterprise* Nov. 15th: A letter written at White Pine by a person whose truthfulness is vouched for by the editor, says: We have now been in this burg just one week, and I will not now hesitate to express my opinion freely, frankly and fairly. That opinion is that these are doubtless the richest mines here ever discovered on the Pacific coast; but tell your friends that if they know when they are well off they will stay where they are this winter, and not think of coming here before late in the spring. You have seen many newspaper reports in regard to this district, but they only present one side of the picture, in telling of the richness of three or four mines—they don't tell that where there is one mine yielding good ore there are a score of men who have expended all their labor and money and have not yet got a color; that lumber is $125 to $150 per thousand feet, and not to be had at that; that wood is $12 per cord; that provisions are very scarce and likely to be more so; that lodging cannot be had; that water has to be brought from Hamilton, four miles, and is sold by the bucket, and many other things that they do not stop to consider in their praise of a newly discovered mining country.

Mr. Dunn, a millman of much experience and who for a number of years has owned and run a mill on Six Mile Cañon, has sold out his establishment there and is making arrangements to erect a first-class mill in White Pine District, convenient to the principal mines in that region.

The Virginia *Safeguard* of Nov. 10th says of White Pine: We are told that no regularly defined ledges are yet known to exist in any part of the district. On the contrary, ore which assays up into thousands has been found in almost every portion of a section of country ranging from two miles in length to a mile and a half in width. Treasure Hill, on which is located Treasure City, and containing the famous Eberhardt and other celebrated mines is enthusiastically put down as a mountain of silver. At all events, the highest grade ore found in the district has been taken from this mountain, which beyond doubt is fearfully and wonderfully rich, but how extensive it is as yet impossible to determine. The deposits or mineral formations of the low land is described as resembling coal beds, and here is found the low grade ore—if it may be said there is any in that country. Chloride Flat embraces a quarter section or more of land, most of which prospects well so far as tested. Numerous shafts have been sunk at intervals throughout the length and breadth of it, many of them striking ore in paying quantities at a depth of from 15 to 20 ft. The great want of the country is mills, there being but one in operation at present, though there are several others in course of construction. Our informant estimates the number of people in the whole White Pine country at 4,000 to 5,000, but thinks not more than two-thirds of the number will attempt to pass the winter there.

Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Virginia *Enterprise*, Nov. 11th: From two pounds of ore (given them for melting by an employé of Wells, Fargo & Co. in this city) Bousfield & Co. yesterday obtained a bar of pure silver weighing a little over 13 ounces, and worth $13.03—showing the ore to have been nearly 50 per cent. silver.

The Virginia and Gold Hill Water Co. yesterday declared their regular monthly dividend (No. 60) of one per cent. on their capital stock.

Nov. 13th: The new Ophir shaft is now down 535 feet. It is still in very hard rock, and Giant Powder is used in blasting. They have expended much time and labor in excavating a bob-pit in the side of the shaft at a depth of about 400 feet.

Nov. 14th: The Sierra Nevada Mining Co. yesterday took to the office of E. Ruhling & Co., in this city, 338 ounces of retorted gold amalgam, the result of a run of 10 days on rock from their own mine. The exact value of the lot of bullion we were unable to ascertain last evening, but it is supposed that upon being assayed it will show a better yield per ton than any ore the company have yet worked from their mine.

There was shipped from the express offices in this city and Gold Hill, during the past week, 8,275 pounds of assayed bullion, valued at $200,602.32.

Mr. A. Koneman, an old Washoeite and a gentleman who has had much experience in milling, is engaged in erecting a fine new mill on Gold Cañon, a short distance below Johnstown. He intends to have the mill ready to start up in about two weeks.

Engineering.

[Written for the Mining and Scientific Press.]

N. Y. Society of Practical Engineering.

This Society held its regular meeting on Tuesday evening, Oct. 27th, at the Cooper Institute, the President, Jas. A. Whitney, in the Chair.

Joseph B. Lyman, Esq., read a paper from J. T. Kirk, Esq., upon the subject of

SEWERS AND SEWERAGE SYSTEMS.

The author, after reviewing the subject generally, stated that it had received more attention and consideration than perhaps any other subject affecting the sanitary condition of cities, both in Europe and in this country; and that there had been more money expended in constructing and improving the sewerage systems of the larger cities, than upon almost any other public improvement—much larger sums having been expended, and better systems devised in the large cities of Europe, than in those of this country. In Paris and London the sewerage systems were very extensive, having required the best engineering talent, and involved the expenditure of large amounts of money in their construction; that of London having cost twenty-five million dollars, the sewers being some ten feet in diameter and ten miles long, and at some places seventy-five feet below the surface. The Paris sewers were spoken of as large enough to admit of the passage of boats of considerable size through them, and frequently these boats were laden with curiosity-seekers of both sexes.

The writer then referred to the various plans that had been suggested to ventilate and disinfect the sewers of cities, and although the subject had occupied the attention at various times of some of the most distinguished chemists, medical and scientific men of this country and Europe, no plan had been proposed, so far as known, sufficiently effective to warrant general adoption.

The debate succeeding the reading of the paper was animating and prolonged. Dr. Preterro said he had visited the Paris sewers and could corroborate what the paper had stated as to their thorough ventilation, etc. No foul odors were perceptible in them.

Mr. J. Harrison spoke in favor of the sub-sewer system, and stated that in the vicinity of Canal street the water at high tide rose to within two feet of the surface of the street, and that the walls of the basements of the houses were at such times damp and almost dripping with moisture. He also stated that at present when the tide recedes it leaves a deposit of sand in the sewers which is very difficult of removal, and at the same time it carries off the fertilizing materials of the sewage, both of which would be obviated if the system of sub-sewers were adopted. The sewage matter could also be better collected.

A member said: When the tide rises the foul gases are forced through the traps and the atmosphere contaminated thereby.

Mr. Capen thought that with the sub-sewerage system the sewage could be passed through materials that would absorb its fertilizing properties, and the remainder could be discharged in the river.

Dr. A. W. Hall thought a better plan would be to let the sewers remain as they are, and pump water from the rivers into elevated reservoirs, to be used for washing the sewers when the tide was low.

C. Williams said if the sewers were above high tide this plan might answer, but would be ineffectual when this was not the case. The sub-drainage system ought also to be adopted for draining the lowlands and marshes in the vicinity of the city of New York.

Wm. B. Harrison said he had seen molasses, made from sorghum grown on land manured with sewage, totally unfit for use on account of the odor pervading it.

Dr. Hall had seen vegetables tainted in the same manner.

Joseph B. Lyman said the best writers and agriculturists acknowledge the value of sewage as manure when properly treated; the results mentioned arose from the want of preparation of the sewage. When mixed with swamp muck it becomes completely inodorous. He was unwilling an impression should go forth from this Society opposed to the utility of sewage as a fertilizer. The sewers of our cities were continually carrying the fertility of our soil into the rivers.

In accordance with the rule which allows a brief consideration of inventions brought to the notice of those present, Dr. A. W. Hall, of New York city, explained his improved water meter, in which a portion of the water is measured to ascertain the whole. A gentleman also exhibited a new derrick, in which the handling of the lifting bucket is facilitated by means of a counter weight action on the rope, which lifts the same.

After some miscellaneous discussion, and the announcement that at the next meeting the subject for discussion would be, "Railway Accidents and the Means of Preventing them," the Society adjourned for two weeks.

A Solid City Front.—How San Francisco will look, and what the city front will be like when the sea-wall now in progress of construction under the Onlton Act, is of interest to the city as well as to the State, and to the commerce of the Pacific. Stone piers are unfortunately not provided for under the act, and it remains to be seen whether the San Francisco merchants are public-spirited enough to take such steps as will insure a solid construction in that particular, before conflicting private interests shall bar the way to the fame of our city as the commercial metropolis of the "great ocean." We will do well to model after other cities than New York. Interesting data concerning the sea-wall will be given in these columns next week. It has reached a point nearly opposite the foot of Clay street, and will be completed to a point off the end of Market street wharf by the 1st of May, 1869. About one hundred men are at present employed on the work.

German Association of Civil Engineers. This organization has shown signs of considerable activity within a few years. At the Paris Exposition they were ably represented, and had an office in a yellow railroad car, where engineers from other nationalties were wont to frequent. A meeting of the Association of Engineers was recently held at Dusseldorf. It numbers 1,500 members, of whom about 500 were present. Among the most important motions was one to the effect that a series of experiments on a very large scale should be undertaken with a view to the investigation of the whole subject of the bursting of boilers, and the means for its prevention.

Water Frontage at San Francisco.—The survey of the tide lands belonging to the State along the city front is advancing. The tracts of the railroad companies have not yet been located finally, because the claims of private individuals of prior date must first be examined and adjudicated. The depth of the water is found at points one hundred feet apart each way, and the depth of the mud and quality of the bottom are also ascertained. The first sales will probably be made in January. North of the Protrero, very little, if any land will be sold; and between the Potrero and Hunter's Point there will be a hundred acres or more. The Board have not decided whether they will sell anything east of the northern half of the Islais bridge; they may make a reservation there for public purposes. The probabilities are that most of the land to be sold will be about Hunter's Point, where the shallowness of the mud, the solidity of the rock bottom, and the abundance and proximity of rock suitable for filling, will command high prices from persons desirous of getting lots on a deep water front with a bottom hard enough to support heavy brick buildings without expensive piling.—*Alta.*

W. F. Boardman is getting out a large, fine map of Oakland and vicinity.

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W. B. EWER,.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

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San Francisco:
Saturday Morning, Nov. 21, 1868.

Notices to Correspondents.

ENGINEER.—From the experiments of Gay Lussac, it has always been considered that a cubic foot of water is convertible into 1,689 feet of steam, at a temperature of 212°, the barometer standing at 29.9 inches. Watt conceived that the bulk of steam so formed equaled 1,800 times that of the water employed, and others have gone far beyond the estimate of Watt; Gay Lussac's estimate, however, is considered to approach the nearest to accuracy. In a rough way it is customary to estimate a cubic inch of water as capable of being formed into one cubic foot, or 1,728 cubic inches of steam, at ordinary atmospheric pressure. Other liquids form different volumes of vapor; alcohol yielding 493 times its volume, ether only 212, and oil of turpentine 192, each at the temperature of 212°.

PISCATOR, Marin County.—Certain fresh and salt-water fish become luminous prior to putrefaction; of the former tench and carp; of the latter, the herring and sole are amongst the most remarkable for exhibiting this phenomenon. Lobsters and and crabs also sometimes exhibit a rich phosphorescent appearance. The experiments of Canton and Holme showed that sea-fish became luminous in about twelve hours after death, that it increases until putrefaction is evident, after which it decreases. Immersion in sea-water does not affect this luminous matter, but the brine is itself rendered lumiuous. It is extinguished by pure water, and by a variety of substances which act chemically upon the animal matter. The ligamentous parts are more luminous than muscular fiber; especially the eyes. Phosphorescence is not so frequently seen in the flesh of quadrupeds, and never in that of birde, under any circumstances of decomposition. Carp and tench might easily be introduced into our fresh water bayous, where they would no doubt flourish amazingly, and add greatly to the picatorial luxuries of our tables.

SATURN.—Liquids by combination sometimes produce solids, and solids occasionally produce liquids. If a strong solution of chloride of calcium is mixed with one of carbonate of potash, and well shaken, it rapidly concretes to a solid. A mixture of *pure* alcohol added to a saturated solution of sulphate of magnesia, congeals into a crystallized solid. When the solid amalgam of lead and bismuth are triturated together, they assume a liquid form, and become cold.

JUVENIS.—The founder of the atomic theory was Dr. John Dalton, a native of Cumberland, England, but who spent the bulk of his life and ended his days in Manchester. His life was almost unmarked by any special external events—the main incidents being mental efforts eventuating in signal discoveries. Dalton, in early life, grappled with several fundamental problems associated with the philosophy of heat and meteorology, and developed these favorite speculations during a long life.

J. P. T., Snowy District, next week.

Chemical and Metallurgical Establishments.

THE SELBY SMELTING WORKS AT NORTH BEACH.

At the point of the sandy promontory which terminates North Beach toward the west, there is a plain, though not unshapely, redwood structure, covering with its wings a good deal of ground, but having neither windows nor doors, so far as is visible to the passer-by. To offset this architectural shortcoming, there is, however, a tall chimney. Whether the latter is the ordinary means of ingress and egress to those employed in the place, remains a question of doubt to the adjacent community of wool manufacturers, and to the soldiers and bathers whose curiosity has been awakened by the mysterious circumstance.

That chimney has been smoking nearly all summer,—the works having been erected last year. We are able to state, too, that there *is* a door to the establishment, and that the alchemists inside, though engaged in extraordinary manipulations so far as the experience of this coast is concerned, and consisting of Caucassians and Mongolians, are not unlike other mortals, and are only engaged in the common pastime of making money.

This they do differently from most of us, viz: by washing and dressing "rock," which is brought thither in vessels, and then smelting the same into bars of silver and gold, and of lead. It is an easy process to comprehend when seen, but a very difficult one to begin and to carry on in such a manner as to make it pay more silver and gold than it costs.

The chimney, which is seen belching forth white smoke both night and day, has connection with a number of reverberatory furnaces in which the aforesaid work is accomplished, in a number of very widely differing processes, referring to the metallurgical principles employed. The principal smelting furnace receives all the raw ores after they are washed and dressed. It is by means of the high chimney that the great heat is attained, which could otherwise only be secured by means of a blast engine to blow the air into the furnace, and which would then be built up like a vertical shaft, and called a cupola; while the reverberatory furnace is a horizontal hearth, like a bake-oven, having the flames striking in at one end, and reverberating from the roof to the ore.

Difficult smelting ores when not in a position to be mixed in the charge with others more easily smelted, are usually treated in the cupola. Such are the argentiferous ores containing zinc blende and the sulphurets of copper and iron, while the easily smelted are galena and carbonate of lead. The rich silver ores,—silver glance, brittle silver varieties, and chlorides, and the free gold ores,—are most economically amalgamated, though not till after volatizing the sulphur and antimony contained in some of them, by roasting; while galena fahlerz (argentiferous gray copper), and some other ores, having refractory mineral admixtures, can only be smelted, or chlorinated, or lixivated by other well-known processes.

The simplest metallurgical process in the world is the roasting of silver ores to a stage when the silver is recognized to have become sulphate of silver, leaching the metal out with hot water, and precipitating it to the bottom of the tub in the form of a white cement of pure silver, by throwing in pieces of copper. But practically such simple and economical processes will not always work, because all the circumstances have to be favorable; and we are obliged to come back to the inexorable reducer of all refractory things—fire.

In smelting in general there are two chemical operations at the bottom of everything: reducing (divesting the ore of its oxygen, as seen in its "rusted" state), and oxidizing again those ingredients that are to be got rid of. During these processes a difference of specific gravity, or fluidity, or time of crystallization, or volatility, are made use of, by means of an intimate knowledge of the nature of all the different ingredients to be treated under these different conditions, for the separation of the metals desired.

As little besides galena with a little native red oxide of lead, are smelted from a raw state at North Beach, the process in the reverberatory furnace is an easy and simple reducing process; and the brittle lead obtained is put into a lead refining furnace, where such conditions are brought to bear as will oxidize the antimony, zinc and arsenic, which, in their oxidized state, are easily drawn off from the surface with a wooden block. The hard or brittle lead from the Montezuma Smelting Works at Oreana, Nevada, of which an immense amount is on hand for treatment, enter the lead refining furnace with the products of the reducing furnace.

The next process to which the product is submitted, is one of concentration; making one kind of lead product richer in silver, and another poorer; the object being to save the cost of cupelling the entire bulk of lead, which is sometimes of an average too low in silver to pay. In pattisonizing, which is done in a row of kettles at a low temperature, it is the poor lead which first crystallizes, and the crystals sink to the bottom, whence they are gathered in a ladle holding a quarter of a ton of crystals, and put into the next kettle. By means of a useful mechanical contrivance on a railroad track, invented by Prof. Price, the severe and costly labor connected with this process is avoided.

Finally cupelling, or the oxidizing of the lead to separate it from the silver, is done on the English portable hearths, which are small, but clean, neat in their manner of working, and easily kept in proper repair. The oxidized lead flows off from the surface of the metallic bath like water, but the moment it cools it assumes a scaly or powdery form, and it is the minium or red lead of commerce. A beautifully pure oxide of lead is produced at these works, and a market has been found thus far for all that has been produced. Should the market get overstocked, the oxide can easily be reduced to metallic lead.

Rich amalgamation and other products which cannot be brought to a perfect separation by the dissolving agency of volatizable quicksilver, also receive the attention of Prof. Price, but in most cases it has been found better to send such products to Swansea. Railroad communication in the interior of Nevada, and Idaho, and Utah, will undoubtedly bring quantities of refractory material to this city, and it will be skillfully and economically treated here as soon as the occasion shall demand it.

Silver and gold refining—the separation of copper, bismuth, etc., from the silver, and the silver from the gold—are done by different processes, and in different establishments specially arranged for the purpose; such as Kellogg & Hewston, and Judson's Refining Works, which will be referred to hereafter.

BLAKE'S STONE-BREAKER IN SOUTH AFRICA.—The London *Mining Journal* of Oct. 3d, says: "It is proposed to send this machine to the newly-discovered gold fields of South Africa, where its great simplicity, the small amount of power it takes, and the large amount of work it will do, are sure to cause it to be thoroughly appreciated. The English manufacturer has received a testimonial that one of his machines is now crushing hard ores at a cost of only 1 ½d. per ton, including steam-power, labor, and oil."

CLEAR WEATHER AND CRISP FROSTS are delights of the present season, enjoyed by all who get beyond the range of walls, or who go into the hills.

The Electric Theory of Earthquakes.

A lecture was delivered by W. H. Rhodes, ("Caxton") a lawyer of this city, at the Mercantile Library, on Thursday evening, in support of the electric theory of the cause of earthquakes,—which seems to be somewhat in favor at present. The lecture was an agreeable entertainment; the speaker's style being excellent, and the reasons in favor of that hypothesis having been presented with all the attractions that a fine command of language could add to the subject. Being a theory entirely disregardful of the opinions held by geologists,—it was first advanced many years ago by a philosopher whose name and identity we are not now able to recall,—a considerable audience was present for the purpose of hearing what could be said in its behalf, or perhaps in favor of any other unexploded theory which might offer itself as a substitute for the generally accepted opinion, or as an addition to our present unsatisfactory knowledge of that subject. Many interesting points were presented, the correctness of which will be very easily decided upon by that class of philosophers with whom earthquake theories are a matter of *taste*. We will attempt merely to state the arguments advanced.

Mr. Rhodes maintained that the attraction of gravitation is at the bottom of earthquake causes; the periodical conjunction or opposition of the moon and planets creating electric storms, of which earthquakes are the manifestations. He attempted to show that such astronomical and earthquake periods have been coincident during a century or more. The greatest attractive influence of the moon and planets can be estimated mathematically, but in designating earthquake periods, extended data would be obviously requisite, embracing the world at large; and similar astronomical conditions should unfailingly produce the same terrestial results. The "electric belt which swells up at the equator," or the spheroid form of the earth, owes its cause, in the opinion of the lecturer, to the attractive force of all the planets in the ecliptic, which are directly faced by the equatorial enlargement, and centrifugal force has nothing to do with it;—thus accounting for the fact that earthquakes are more frequent or more terrible in the tropics than elsewhere. Volcanoes were created by the electric fluids of the interior, which must have a vent. Amongst the reasons given in support of the electric hypothesis, were the twisting motion given to chimneys; the fact mentioned to him by Capt. Wilder, that in a mine at Copiapo, no oscillation was felt, while on the surface they experienced an earthquake; and a similar experience was related more recently of the workmen at Lime point, who were only 200 feet under the surface, in a tunnel; the twisting around each other of two telegraph wires at San José; the peculiar meteorological phenomena accompanying earthquakes, such as the smoky atmosphere and the glassy sea; the disturbance of the direction of the magnetic needle, observed on board a Russian frigate, and elsewhere; the thunder and electric phenomena connected with the eruption of Stromholi; the immense extent of country affected by a single shock; the subsidence of earthquake influences during periods when the aurora borealis is prominent, the latter apparently relieving the earth of its causes of disturbance; the paralysis of the arm of an acquaintance at Oakland, during the late earthquake, who "distinctly felt the magnetic shock passing out at the ends of his fingers;" and the profuseness of electric sparks flowing in a constant stream from the hair of a lady in this city on the evening before the late earthquake, (12 hours earlier) the same ceasing to be evolved after the shock. The lecturer concluded by assuring the audience that no severe earthquake would occur again for about a cen-

tury, after the present winter, except perhaps, some slight shocks when the sun's spots should attain their maximum size in 1878-9; because a period of auroras was to set in after the present winter, according to Prof. Lovering, which would last for twenty-two years, when there might be some additional slight shocks.

That the needle has been disturbed in its direction during an earthquake shock, appears to be a well attested fact, whatever may be the correct explanation. The lecturer did not attempt to explain how it is that earthquakes are restricted to the vicinity of the peculiar volcanic lines and centers of the globe (including Iceland, Alaska, and the Austral continent), in relation to which their localities of occurrence and relative frequency and intensity, have been mapped with great care by Mallet and Humboldt. But if volcanic pheuomena are attributable to electricity, and if the spheroid form of the earth is due to attraction of gravitation, there would probably be no difficulty in reconciling also this fact with the electric philosophy of earthquakes.

Another lecture on the subject of earthquakes was delivered on Wednesday evening, by Capt. W. A. Hutchinson, at Dashaway Hall.

Encouragement to Home Inventors.

There are no people in the world who think and act quicker than Californians, and this State, in proportion to its population, is now furnishing a greater number and variety of novel inventions than any other in the Union—Yankeedom not excepted.

During the year 1868, no less than 300 applications for patents have been made by Californians, and the number granted will reach about 250. Probably in no other State in the Union do inventors receive Letters Patent for over two-thirds the applications made. The remarkable success of California applications is by reason of greater originality in our Pacific Coast inventions, and the thorough manner in which the claims for the same have been presented to the Patent Office.

Among the notable patents granted to Californians in 1868, may be mentioned the Steam Plow, which, it is believed, will be able to plow and sow twenty acres per day; the Railroad Constructor, which will lay seven miles of track per day; a new explosive compound, which is cheaper, less dangerous, and 100 times more powerful, than common gunpowder; and a machine gun, which loads itself and fires 120 shots per minute. Patents have been applied for in foreign countries for the above inventions, with one exception,—and in one case the applications extend to every important civilized country in the world. Foreigners and adopted citizens share alike the protection granted by United States Letters Patent, and we are indebted to them for some of the most useful improvements of the past twelve months. One quite ingenious invention has been brought forward by a son of the "Flowery Kingdom," who is probably the first Chinaman that has signed a petition to our Government for a patent.

When in Washington last winter, one of the proprietors of this paper made special arrangements with the Patent Office for weekly reports of patents issued to inventors of the Pacific States and Territories, to be advanced to us everland, and for which we have to pay a liberal price to the Government. In order that inventors may at once be notified, and the interested public informed of all new and useful patents, we have given the lists over to the daily press, enabling them to publish it in advance of our weekly issue. The attention which the press throughout the State has given to this weekly list of patents, shows what friendship and interest the editors and publishers of California entertain for home inventors and inventions. This is right and generous, and friendship well bestowed. There are no nobler men, as a class, than real inventors. They help the world along—let us help them.

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THE FIRST VELOCIPEDE.—A sensation was created on Fifth street, in this city, a few days ago, by the appearance of a velocipede propelled by a gentleman who seemed perfectly to understand the machine.

SULPHURETS and rich Rebellious Ores are wanted in this city, by ROBT. TAYLOR & CO. See advertisement in another column. 17v17tf

RETURNED.—Dr J. H. Paine, Dentist, Wadsworth House, No. 225 Bush street, between the Occidental and Cosmopolitan Hotels, San Francisco. 21v17-4m

SAVE YOUR TEETH.—Drs. Jessup & Beers, over Tucker's Jewelry store, are now making a specialty of filling the fangs of dead Teeth, and building up broken crowns with *pure gold*—thus restoring them to their original usefulness and beauty. They are also using Nitrous Oxide for the painless extraction of Teeth, when so desired—the only absolutely safe anæsthetic ever discovered. In breathing it, it acts as a gentle stimulant, without undue excitement,—the sensation produced being truly delightful, the effect upon the lungs healthful, and in its results positively free from all danger. Prepared and administered daily at the Dental Rooms of Messrs. JESSUP & BEERS, corner Montgomery and Sutter streets, San Francisco. 16v16tf

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NOTICE.—Persons interested in locating Mineral Lands in California or Nevada, will do well to observe the advertisement of N. Wescoatt, S. & M. E., in another column.

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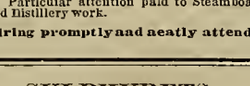
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DISPERSION OF CAPITAL.—For several years past there has been a strong tendency to concentrate capital in San Francisco and employ the greater portion of it in real estate transactions. The city was growing out of all proportion to the State at large until steamship opposition gave us a materially increased immigration, and the remarkable prosperity which attended our agricultural interests for the past two years induced the cultivation of a much extended area. The rage for buying land in and about San Francisco, and erecting shell edifices to secure quick, high rents, was the ruling passion to the exclusion of outside ventures. * * * Real estate investments have proved very lucrative. Men could turn their money over more frequently than in most other business, and the inducements were altogether too captivating to be resisted. But everything has its limit, and in this case that limit has been hard pressed in anticipation of the Pacific Railroad completion. Everything in the shape of land for thirty miles in all directions has been cut up into building lots and offered in the market. An area big enough to contain twenty such cities as New York has been parceled out in "Homestead" lots, apparently with the expectation that they would find ready sale, and he settled upon by the overwhelming tide of immigration expected by the overland facilities to be furnished in six months from this date. * * * True policy would indicate that some of our abundant capital should be converted to other and more permanent interests, even though more time be required before substantial returns can be had. We require a net of railroads connecting us with all the main agricultural districts and the principal mines. We need to establish factories of various kinds upon all our mill privileges, and afford them ready access to market. If we desire to keep the heart healthy and vigorous, we must not neglect the extremities, much less the main arteries. It is possible that the recent earthquake may induce a more careful attention to other and no less important interests outside of San Francisco. If so, it will only hasten what will have to be done at some time, and those earliest in the field will have the best chance.—*Commercial Herald.*

CANOE NAVIGATION IN BRAZIL—NOVEL LAND CARRIAGE.—A Paraguay correspondent of the St. Louis *Republican* says: Canoe life is a distinct feature in a country where there are few roads and many rivers, as in Brazil. Almost every man, woman and child is expert in managing a canoe; and it is surprising what skill the natives have in fashioning the log by the eye alone into the most methodical dimensions and symmetrical forms. These water craft are of all sizes, from a horse trough to the pirogues of war of the old Tamoias, which were of such notable grandness that they carried 150 warriors, who shot their arrows with one hand while they rowed with the other, making the wood of the oars their shields. The canoes of Ignape river are yet more immense, as the largest trees along the coast are found up that river. For land carriage there is a contrivance in many parts of Brazil which I do not remember seeing mentioned, and which has great conveniences for invalids or persons who consult their ease. It is the *bangue*, something like the palanquin or palkee of India or China—only that, instead of being carried on men's shoulders, it is swung between two mules, the forward mule being led by a footman, and being harnessed with the long front shafts of the hangue playing up and down in harness on his side; and the hinder mule, accoutred in the same manner, only reversed, "the cart before the horse." Or, in other words, it is a hand-harrow carried by mules—the handharrow curtained off like a bed, in which one or more persons can lie and sleep, or sit and smoke and read, passing along over any roads that a pack-mule can pass with his load, the play of the shafts keeping the hangue always pretty much horizontal and jogging along over very rough ground with comparative comfort, and it affords convenient night quarters in case of camping out along the route, and families of the better class are frequently seen journeying in this manner in the province of St. Paulo.

THE WORLD'S BENEFACTORS.—Lehlanc, the inventor of the process now in common use for making carbonate of soda from common salt, which, after eighty-six years, remains as he left it, remained poor, although he had been the agent of conferring incalculable wealth upon mankind. Cheap soda, cheap glass and soap, light and cleanliness, and their collateral benefits, were due to him; yet he wanted bread, and ended his days in a hospital, having lingered there, when fortune, health, and hope were lost, until reason also failed, and he died by his own hand.

SEPARATION OF THE INNER BARK FOR TANNING.—The tanning principle being found chiefly in the inner bark or "liber," and a large portion thereof absorbed by the outer bark or "ross" in the bleaching process, it is suggested that an improvement on the present plans would be to first separate the ross from the liber, by means of some efficient, portable machine, and, after grinding the liber in a dry condition to a fine powder, to compress it by suitable power into barrels or boxes for transportation to the tanneries. This would not only secure the least bulk and consequently the least expense for carriage, but the entire quantity of tannin in the liber would be placed in an available form in the hands of the tanner. In carrying out this system of preparing the bark for use, however, great care would have to be taken in keeping the powdered material perfectly dry, for the presence of moisture would enable it to absorb oxygen, thus converting the tannin into gallic acid, which is of no value in tanning operations, except in a minor degree as assisting the "swelling" of the hide, or, in other words, the extension of its fibers.

RELIEF-PRINTING BY PHOTOGRAPHY.—The *Gentleman's Magazine* describes a new English patent for relief-printing by photography: A drawing is made in line or stipple, and a negative photograph is taken from it. This is used to print, photogenically, upon a well-known film of gelatine mixed with a chromic salt, which gives an impression with the whites of the picture in intaglio and the lines in relief. A plaster cast is taken from this matrix, and a type metal cast from the plaster. This last is touched up, if necessary, and mounted, like a stereotype, for printing. A manifest advantage of the method is that it allows the block to be produced upon any scale relatively to the original drawing. The first specimens produced are said to have had the wiriness of an etching, wanting the tone of wood engraving.

THE RING AROUND THE SUN.—Professor Loomis, of Yale College, in his recently published treatise on Meteorology, speaking of the halo around the sun, says: This is formed by the refraction of the light of the sun or moon through crystals of ice floating in the atmosphere. Snow consists of crystals of ice. Whenever halos are formed about the sun, the air is filled with fine prismatic crystals which occupy every possible position with respect to the sun's light. Such a halo may be formed in midsummer, because at a moderate elevation above the earth's surface the condensed vapor of the air is frozen even in the hottest weather. The circle within the halo is much darker than the space without it, because from no part of this circle can a ray of the sun retracted by ice prisms reach the eye of the observer.

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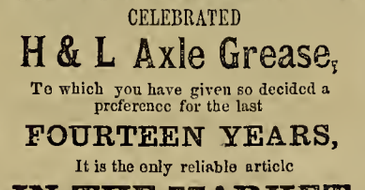
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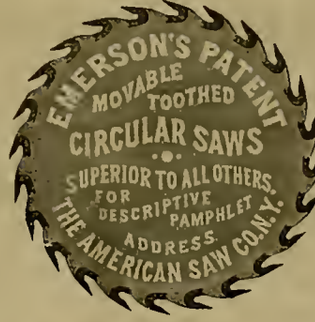
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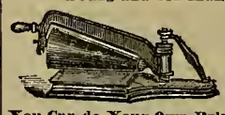
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These Cartridges are made in three sizes, viz., .577 (or Snider Enfield) bore; .500 (or half-inch) bore; and .451 (or small) bore.
These Cartridges have been adopted, after careful comparative trials against all other descriptions, by HER MAJESTY'S WAR DEPARTMENT, as the Standard Rifle Ammunition for the BRITISH ARMY, and are not only used exclusively for the Snider Rifle, but are adapted to all other systems of military BREECH LOADING RIFLES.
They are the cheapest Cartridges known, carrying their own ignition, being made wholly of metal, are water-proof and unperishable in any climate.
Boxer Cartridge Cases (empty), of all 3 sizes, packed with or without bullets, and machine for fastening same in Cartridges.
Makers of BOXER CARTRIDGES, .450 bore for Revolving Pistols, in use in Her Majesty's Navy.
PIN CARTRIDGES for Lefaucheux Revolvers, of 12 m, 9 m, and 7 m, bore.
CENTRAL FIRE and PIN FIRE CARTRIDGES, for all sizes of Guns, Rifles and Revolvers.
Double Water-Proof and E. B. Caps. Wire Cartridges for killing game at long distances. Felt Waddings to improve the shooting of guns; and every description of Sporting and Military Ammunition.
Wholesale only. **ELEY BROTHERS,**
18v16cowly Cray's Inn Road, London, W. C.

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Notice is hereby given, that I have removed from my old stand on Beale street, and have formed a co-partnership with Mr. A. CAMERON, for the purpose of carrying on the business of Stair-Building, Wood-Turning and Scroll Sawing. The business will be conducted as formerly at Cameron's, corner of Market and Beale streets, and also at Nos 485 and 487 Brannan street, where ample steam power and all necessary facilities have been provided for every branch of the business.
Different sizes of Redwood Balusters constantly on hand for sale. Also Spanish Cedar, Walnut and California Laurel.
15v17-3m N. P. LANGLAND.

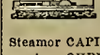
Mining Secretary.
THE SUBSCRIBER, HAVING SERVED FOR THE LAST five years as Secretary of various mining companies, feels fully competent to serve in that capacity. Any parties wishing to secure the services of a Secretary can be accommodated on reasonable terms. Information given, and all necessary papers correctly made out.
Having had a long experience in the purchasing of goods and machinery for miners, parties in the mines will find it to their advantage, where purchasing agents are employed, to send their orders to the undersigned.
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Room 37, New Merchants' Exchange, California street, San Francisco. 17v15-tf

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Premiums received, 1867..... 1,333 405.84.
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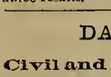
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ATTORNEY AND COUNSELOR AT LAW

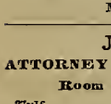
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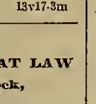
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M. B. BULLARD,
Proprietor of Petroleum Stove for California, and Agent for Universal Oil Stove for Pacific Coast.

N. B.—Petroleum Stoves burn Naphtha converted into a gas. Universal Oil Stoves burn Naphtha, Benzine, or Coal Oil, with non-illuminating flame and light on a wick as easy as a lamp. 21v16 3m

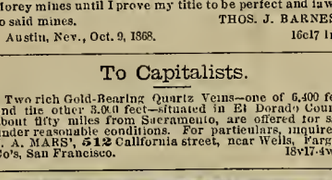
NOTICE.

TO ALL WHOM IT MAY CONCERN.—Notice is hereby given, that I am the first discoverer, first locator, and first Recorder of the Morey District, Nye County, Nevada, and I warn all persons from buying any interest in the said Morey mines until I prove my title to be perfect and lawful to said mines. THOS. J. BARNES.

Austin, Nev., Oct. 9, 1868. 16c17 1m

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Two rich Gold-Bearing Quartz Veins—one of 6,400 feet, and the other 3,000 feet—situated in El Dorado County, about fifty miles from Sacramento, are offered for sale, under reasonable conditions. For particulars, inquire at J. A. MARS', **512** California street, near Wells, Fargo & Co's, San Francisco. 18v17-4w*



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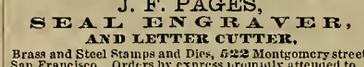
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LEAVE WHARF, CORNER OF FIRST AND Brannan streets, at **11** o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPINWALL for NEW YORK.

On the **6th, 14th, 22d** and **30th** of every month.

Steamer leaving San Francisco on the 6th touches at Manzanillio. All touch at Acapulco.

Departure of the 14th is expected to connect with the French Trans-Atlantic Co.'s steamer for St. Nazaire, and English steamer for South America. Through tickets can be obtained.

Departure of 14th is expected to connect with English steamer for Southampton and South America, and Australia, and P. R. R. Co's steamer for Central America. Through tickets can be obtained.

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November 14th—GOLDEN AGE.....Capt. W. F. Lapidge, Connecting with OCEAN QUEEN, Capt. King.

November 21st—COLORADO.....Capt E. S. Farnsworth, Connecting with HENRY CHAUNCEY, Capt. Connor.

November 30th—SACRAMENTO.....Capt. W. H. Parker, Connecting with ARIZONA, Capt. Maury.

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An experienced Surgeon on board. Medicine and attendance free.

These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.

Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—if desired an amount of £10 to £20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England.

The Steamship GREAT REPUBLIC, Capt. S. Doane, will be dispatched on SATURDAY, October 3d, at 12 o'clock M., from wharf corner of First and Brannan streets, for YOKOHAMA and HONGKONG, connecting with the COSTA RICA for SHANGHAI.

For Merchandise and Freight for New York and way ports, apply to Messrs. WELLS, FARGO & CO.

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OLIVER ELDRIDGE, Agent.

To Inventors on the Pacific Coast.

Messrs. DEWEY & CO.

Take occasion to call your attention to the following rules, regulations and suggestions relative to the obtaining of LETTERS PATENT of the United States:

Advantages to Patrons of Our Agency.

Some of the advantages to be obtained by patronizing us may be enumerated as follows:

1. Inventors on this coast having their applications for patents made out through our agency, can sign their papers at once, and thus secure their rights at least *three months sooner* than by trusting the same to distant ugencies, situated at New York or Washington.

2. As many of the inventions conceived here are especially adapted to the Pacific coast, they should be properly brought out here, which can be accomplished (if the invention is a meritorious one) by illustrating the subject, with a careful description, in the columns of the MINING AND SCIENTIFIC PRESS, *free of charge*; the inventor paying simply for the engraving, which will be executed at a moderate charge. The same cuts can be subsequently used for books, letters or circulars. In a word, we are determined to make it of decided interest for every inventor on this coast to patronize home talent and enterprise.

3. Most inventions on this coast are for objects and purposes but little understood by parties at Washington or other parts of the East. Our mining machinery, processes and operations are best understood by those familiar with their use; and a personal verbal explanation is oftentimes of important service, and enables us to be more successful than agents generally.

4. Remittances of money made by individual inventors to the Government sometimes miscarry, and it has frequently happened that applicants have not only lost their money, but their inventions also, from this cause and consequent delay. We hold ourselves responsible for all fees entrusted to our agency. By sending duplicate correspondence to our Washington agent we avoid hazardous delays.

Saving of Time.

In urgent cases for an immediate patent, persons can deposit the amount of the last fees with us, in San Francisco, and have our Washington agent procure the *issue* of the papers as soon as granted, saving the two or three months time which would otherwise be required for the inventor to receive notice and then forward the money. Money advances for this purpose will be returned, should the application be rejected. By adopting this course, we are enabled, with our other advantages, to secure the *receipt* of patent papers to inventors on this Coast, at least four or five months sooner than can be done through agents in the East, without the applicant going to the hazardous expense of sending on the last fee before it is known whether the patent will be granted.

Foreign Patents.

In addition to American patents we secure, with the assistance of co-operative agents, claims in all foreign countries which grant patents, including Great Britain, France, Belgium, the Netherlands, Prussia, Austria, Russia, Spain, British India, Saxony, Hanover, Sardinia, Norway, Sweden, Australia, Mexico, Victoria, V. I.

Many valuable and important inventions of Americans are being yearly surreptitously patented in foreign countries, some of which governments allow it, thus debarring those who have valuable inventions from their rights.

Patents obtained in England, France and Belgium will secure the rights of an inventor among many millions of the most enlightened people on the globe; it is therefore very important, if the invention is valuable, to secure foreign patents.

Our schedule prices for obtaining foreign patents, in all cases, will be as low, or lower, than those of any other agency.

Patent Rejections.

FIRST. Refusals are always made by the Patent Office if there is any informality in the specification, or if it does not contain the entire subject matter of the invention, and is not properly arranged and stamped. A slight omission often proves fatal.

SECOND. If the drawings are defective, and are not executed in an artistic manner in India ink, and on sheets of the required size, they are subject to rejection.

THIRD. Applications are always rejected where the claims conflict with others already patented.

If the rejection should be an unjust one—which sometimes happens—it can generally be reversed, and the patent obtained by contesting the case.

For the prosecution of such cases, obtaining references, making arguments, and personally attending to explain the case (through our agent in Washington), *we charge no second fee*, as is the case with some agencies, but attend to the business till finally allowed or twice rejected, without extra charge beyond the Government fee.

Inventors who have rejected cases, prepared either by themselves, or for them by other agents, and desire to ascertain their prospects of success by further efforts, are invited to avail themselves of our unsurpassed facilities in securing favorable results. We have been successful in securing Letters Patent in many such cases. Our terms are very moderate.

Steps Necessary to Procure a Patent.

The FIRST thing required is a model, if your invention can be represented by one. It is not only immediately necessary in preparing the papers, but the law demands that the inventor shall, in all cases, furnish a model, which must not exceed twelve inches in any of its dimensions. A model of less size will answer when more convenient. It should be neatly made, and of hard wood or metal, or both, varnished or painted; the name of the inventor should be engraved or painted on it in a permanent manner.

When the invention consists of an improvement on some known machine, a full working model of the whole will not be necessary. It should be sufficiently perfect, however, to show, with clearness, the nature and operation of the invention.

As soon as the model is ready, it should be carefully boxed and shipped by express, or otherwise, to our address, namely: DEWEY & CO., *Mining and Scientific Press, San Francisco.* Prepay expenses and send express receipt to us by mail.

A full description must also be sent with the model, embodying all the ideas of the inventor respecting the improvement.

Simultaneously with the model, the inventor should send us the first instalment of the Government fee, fifteen dollars. The money may be forwarded either by express with the model, or by mail. The safest way to remit is by draft on San Francisco, payable to our order. Always send a letter with the model, and also the remittanee, stating the name and address of the sender. On receipt of the model and Government first fee of $15 in currency, the case is duly registered on our books, and the application proceeded with as fast as possible. When the documents are ready we send them to the inventor by mail, for his examination, signature and affidavit, with a letter of instruction, etc. Our fee for preparing the case is then due and will be called for. The case will then be presented to the Patent Office, and as soon as the patent is ordered to he issued the Government last fee of $20 in currency will be required. The law states that every patent shall be dated as of a day not later than six months after the timo at which it was passed and allowed, and notice thereof sent to the applicant or his agent. And if the final fee for such patent be not paid within the said six months, the patent shall be withheld, and the invention therein described shall become public property as against the applicant therefor.

Inventors who do business with us will be notified of the state of their application in the Patent Office, when it is possible for us to do so We do not require the personal attendance of the inventor, unless it is one of great complication, as the business can be well done by correspondence.

When the invention consists of a new article of manufacture, a medicine, or a new composition, samples of the separate ingredients, sufficient to make the experiment, and also of the manufactured article itself must be furnished, with full description of the entire preparation.

The average time required to procure a patent, when the case is conducted at our agency, is tea weeks. We frequently get them through in less time; but in other cases, owing to delay on the part of Government officials, the period is sometimes extended to four or five months, and even more. We make a special point to advance our cases as rapidly as possible.

Candid Reasoning.

A gentleman eminent for his ability in all points pertaining to specifications, gives inventors the following sound advice:

To properly prepare a specification may seem a very simple and easy task, but such is not the case. It requires a knowledge of the arts, of science and scientific terms, and their proper use—of mechanics and the principles that govern their action—of law, and of the grammatical and legal force and construction of language, which is possessed by but very few persons.

Lawyers seldom possess tho mechanical knowledge, while meebanics still more generally lack the legal knowledge necessary to enable them to properly prepare a case for examination.

It requires such a *combination* of legal and mechanical knowledge, together with a special knowledge of the principles and rqles that govera the action of the office, that no person is really competent to undertake the business but those who *have made it a study, or had experience at it.* In view of these facts I unhesitatingly advise every person who bas an invention worth patenting to get some responsible and competent ageat to attend to it for him.

No person scarcely would think of entering upon a suit at law without employing a lawyer to attead to it, and make out his papers for him; and if a sensible man would not do that, much less would he attempt to prepare an application for a patent without knowing anything about the business.

I am aware that persons frequently attempt it, but I am also aware that *many lose their patent simply in consequence of not having their case properly prepared, or not knowing how to amend it so as to avoid the references given when once rejected.*

Besides this, many times when they succeed in obtaining the patent, they find afterwards that it will not stand in law, or does not cover their invention, and is therefore useless. It is for this reason that many applicants are compelled to reissue their patents at as great, and often greater expease, than the obtaining of the original.

Hence I repeat, every person having an invention worth patenting should employ a competent and responsible agent—I say *competent and responsible,* for, unfortunately, there are many who are neither competent nor responsible.

If worth filing at all, these cases should be prepared with very great eare and caution.

One intentor on this Coast, who had filed a caveat by an attorney, was, sometime afterward, surprised to find that his invention, which was a very important one, had been patented and was being brought out by an eastern company with a capital of more than a million of dollars. Upon inquiring at the Patent Office, he was informed that his caveat was inoperative by reason of imperfections and his not having complied with the law in that case as made and provided.

Inventors will oftimes find it very important to take advantage of the caveat system—the expense under the law being comparatively small.

To enable us to prepare caveat papers, we only require a sketch and description of the invention; no model being necessary.

If an inventor publicly uses and sells his invention, prior to making application for a patent, he cannot, afterward, prevent others from doing the same thing; and should any party put the invention into use, before such application for a patent is made, they could continue to use the specific machine or composition of matter after the patent is issued to another. Filing a caveat does not give the right to affix the words, "Patented, or "Patent applied for."

Re-Issues.

When, through "inadvertence, accident, or mistake," an *insufficient* or *defective* patent has been issued, the defects in the Specification and Claims can be cured by a *re-issue.* In order to obtain this, the inventor, or the holders of the patent, must surrender the patent, and file an amended specification and drawings, and a statement specifying the ground for asking for a re-issue. Re-issues are generally applied for after it has been found that the patent could not withstand litigation. It is, therefore, especially desirable that the new Specification and Claims should be prepared with great care and skill. Terms liberal in these cases.

Dangers of Delay.

Situated so remote from the seat of Government, delays are even more dangerous to the inventors of the Pacific coast than to applicants in the Eastern States. Valuable patents may be lost by the extra time consumed ia transmitting specifications from Eastern agencies back to this coast for the signature of the inventor, or by reason of return for amendment when addressed directly by the inventor to the Government.

Illustrate your Innentiovs.

Too many ingenious inventors lose the value of their genius and labor by not bringing their improvements conspicuously or plainly enough before the public—the general reading public.

One of the best means—and tho cheapest, too—for eliciting attention to a new invention, is that of illustrating and describing it in the columns of the MINING AND SCIENTIFIC PRESS. To do this in the case of a meritorious improvement (and none other will be accepted), will cost our patrons no more than the price of a first-class engraving.

With a cheap representation we will have nothing to do, as it would be calculated to injure both the inventor and ourselves.

We also take especial paias in furnishing engravings and electrotypes of superior merit, of all kinds, at fair rates, and tender our patrons the benefit of our practice and experience, by advice and assistance, in getting up their circulars, advertisements, etc.

To Eastern Inventors.

Our close proximity to Mexico, Australia and the Islands enables us to obtain Letters Patent for you with much less *delay* and expense than they can be secured through any other agency in the United States.

Comparatively few inventors seem to be aware that Melbourne, in Australia, is a city nearly double in size to San Francisco, besides the adjacent colonies of great commercial and mineral importance. Inventions of all kiads, but especially those relating to the saving of gold and silver, if secured in Australia, will oftea prove of great value. We have competent agents there, and can promise that the business will be attended to with fidelity and dispatch.

DEWEY & CO.,
Patent Solicitors, Mining and Scientific Press Office,
414 Clay Street, below Sansome, San Francisco.
SEPTEMBER, 1868.

THE MINING AND SCIENTIFIC PRESS has entered upon its XVIIth Volume. It bas donned a new-style hat; or, in newspaper parlance, a new heading, which givesit the solid, scientific look it merits. Other improvements typo graphical are also noticeable. No call for improvement in its matter.—*Amador Ledger, July 18th.*

Fluctuations in Leading Mining Shares for the past Six Months.

NAME OF COMPANY.	May 11th.	May 20th.	May 30th.	June 10th.	June 20th.	June 30th	July 10th.	July 20th.	July 30th	Aug. 10th.	Aug. 20th.	Aug. 30th.	Sept. 10th.	Sept. 20th.	Sept. 30th.	Oct. 10th.	Oct. 20th.	Oct. 30th.
Gould & Curry..... per ft.	540	420	430	110	112	114	109	103	105	91	88	106	100	100	96	89		
Ophir.....	167½	167	180	14¾	12¾	13	15½	21¾	21	20¾	32	21	18	17	17	19¾	19	19
Savage.....	156½	151	150¾	163	154¾	157¾	136	128¾	132¾	129	113	118¾	91¾	90	105	110½	82¾	75
Mexican-Potosi.....	242½	240	240	240	243	255	214	181	138	138	162	183¾	153	149	158	155	146¾	136¾
Hale & Norcross.....	127½	110	106	117	80	102	71	65	79	74¾	77	93	83½	48¾	49	49¾	44	44¾
Sheba.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Daney.....	18	14	23	7	7¼	8	7¾	....	3½	....	....	....	....	3¼	8¼	8½	5	6
Wide West.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Bullion.....	70	54	47	35¾	25	30	26	23	21	17¾	22	20	15	16	18¾	15	....	14
Real del Monte.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
El Dorado.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Overman.....	127½	74	82	77	77¾	82	69	82	78	78	110	88	83¾	81	83	89½	81¾	70¼
Sierra Nevada.....	38	28	30	31	25	30	27	24	32	32¾	37	27	27	20	16¾	20	18¾	29
Yellow Jacket.....	1,435	1,050	1,200	1,205	1,115	1,205	1,240	1,220	1,185	1,135	1,220	1,400	1,270	1,190	1,400	1,580	1,490	1,402½
Amador.....	232½	241	....	261	255	245	225	255	265	260	237½	212½	223	240	240	229	230	207
Lady Bryan.....	38	29	23	31	25	32½	27	23	14	15	15	21	16	12	16	14	10	10¼
North American.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Baltimore American.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Melones.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Sacramento.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
White & Murphy.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Imperial.....	250	202½	208	240	160	140	135	118	103	111	118½	111	108	97	108	112	112	101
Crown Point.....	2,750	108	117	113¾	101	94	88½	94	88	87¾	87	81	68	44¾	47	45	44¾	43
Belcher.....	340	3.2½	301	285	200	190	17.½	150½	115	122½	140	160	160	125	135	152¾	140	127
Alpha.....	88	65	75	72	57¾	52	47¾	44½	11	51	50	51½	51	45¼	47	54	42¾	39
Empire M. and M. Co.	....	201	225	225	....	190	....	135	120	115	115	120	115	....	101	100	....	105
Confidence.....	....	62½	....	60	....	....	38	38	35	....	....	35	....	30	....	....	....	....
Justice and Independent	15	....	....	....	....	8	6	6	5	....	....	....	....	....	....	6¾	....	4¾
Exchequer.....	57½	25	31	39	31	29	25	21	20	19	19	19	....	12	14	15	13¾	14
Kentuck.....	477½	410	417	345	340	372½	302½	387½	382½	359	450	425	411	295	283	262	280	262½
Gold Hill Q. M. Co.....	126	11	....	117½	82¼	100	85	70	69	65	....	60	62	....	....	....	....	50
Segregated Belcher.....	18	11	9½	8½	11½	10	10	13¾	11½	11½	13¾	11¼	10¾	9	10¾	9¾	8¾	8¼

Mining Notices.

Cordillera Silver Mining Company, Morelia District, Chihuahua, Mexico.

NOTICE.—There are delinquent, upon tho following described stock, on account of assessment levied on the sixteenth day of October, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Dickson John	147	21	$21 00
Dickson, John	167	5	5 00
Alfred Harris	135	5	5 00
Alfred Harris	137	5	5 00
Alfred Harris	143	8	8 00

And in accordanee with law, and an order of the Board of Trustees, made on the sixteenth day of October, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on Monday, the seventh day of December, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

HENRY R. REED, Secretary.
Office, 321 Washington street, San Francisco. no21

Hope Gravel Mining Company. Location of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of November, 1868, an assessment (No 27) of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 28 Merchants' Exchange, California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on Tuesday, the twenty-second day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eleventh day of January, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary.
Office, No. 28 Merchants' Exchange, south side of California street, between Montgomery and Sansome streets, San Francisco, California. no21

Rattlesnake Gold and Silver Mining Company, Brown's Valley, Yuba County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the thirteenth day of October, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Bradley M.....old issue....	7	30	$60 00
Bradley, A B.....old issue....	56	5	10 00
Ely, I.....old issue....	57	10	20 00
Findley, Thos...new issue....	26	49	98 00
Gray, C M.....old issue....	5	30	60 00
Gray, C M.....old issue ...	6	30	60 01
Gorde, F .....new issue....	10	25	50 00
Knight, D E.....old issue ...	30	54	108 00
Lawson, J F.....old issue...	44	49	98 00
Lamory, E.....new issue....	11	100	200 00
Ruggles, D W.....old issue....	57	10	20 00
Van Muller, E.....	20	150	300 00
Van Muller, E.....	21	104	200 00
Van Muller, E.....	22	57	104 00
Van Muller, E.....	23	25	50 00
Van Muller, E.....	24	20	40 00
Vitte, I.....	55	5	10 00

And in accordance with law, and an order of the Board of Trustees, made on the thirteenth day of October, 1868, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the salerooms of J. Middleton & Son, 310 Montgomery street, San Francisco, on Monday, the seventh day of December, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN F. LOHSE, Secretary.
Office, 318 California street, San Francisco, Cal. no21

Rippon Gold and Silver Mining Company.— Location of Works: Silver Mountain District, Alpine County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifteenth day of of October, 1868, an assessment of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 57 Stevenson street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the nineteenth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the eighth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

P. CARROLL, Secretary.
Office No. 57 Stevenson street, between First and Second streets, San Francisco. oc24

POSTPONEMENT.—The day for deeming stock delinquent on the above assessment is hereby postponed until Saturday, the twenty eighth day of November, 1868, and the sale thereof until Thursday, the seventeenth day of December, 1868. By order of the Board of Trustees.

P. CARROLL, Secretary.
n21

Colorado Silver and Copper Mining Company, Arizon Territory.

NOTICE.—The Annual Meeting of Stockholders of the Colorado Silver and Copper Mining Company, of Arizona Territory, will be held at the Company's office, No. 713 Montgomery street, Room No. 40 (3d story), on MONDAY, DECEMBER TWENTY-EIGHTH, 1868, at 3 o'clock, P. M., for the election of Trustees and the transaction of such other business as may properly come before it.

B. W. MUDGE, Secretary.
nov14

Chiplonena Mining Company--District of Ures, Sonora, Mexico.

Notice is hereby given, that at a meeting of tho Board of Trustees of said Company, held on the sixth day of November, 1868, an assessment of two dollars and fifty cents per share was levied upon tho capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, No. 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eleventh day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-eighth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary.
Office, 318 California street, up-stairs, San Francisco. n7

Diamond Copper Mining Company. Location: Rockland District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-eighth day of October, 1868, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No 49 Merchants' Exchange Building, California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the tenth (10th) day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall he made before, will be sold on Monday, the twenty eighth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. A. COOLIDGE, Secretary.
Office, Room No. 49 Merchants' Exchange Building, California street, San Francisco. oc31

Fogus Mill and Mining Company.—Location of Works: Amador County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-third day of October, 1868, an assessment of two dollars and fifty cents ($2.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at his office in San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-fourth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the twelfth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN J. SCOTCHLER, Secretary.
Office, No. 318 Front street, San Francisco, Cal. oc31

ASSESSMENT NOTICE.

Notice is hereby given, that an assessment of one dollar per share on the stock of the NEVADA COUNTY GOLD MINING COMPANY is due, and payable at the office of the Company, No. 9 Merchants' Exchange, San Francisco, within thirty days from date. Any of the above stock upon which said assessmont shall remain unpaid on Saturday, the 19th day of December, 1868, will be sold at public auction, at the office of the Company, as above, at 12 o'clock, noon, in accordanee with law and per order of the Board of Trustees.

W. AUG. KNAPP, Secretary.
San Francisco, Oct. 19th, 1868. oc24

Mount Tennbo Silver Mining Company.—Location of Works: Cortez District, Lander County, State of Nevada.

Notice is hereby given, that the Annual Meeting of tha Shareholders of the above named Company will be held at the office of the Company, No. 426 Montgomery street, San Francisco, on THURSDAY, the twenty-sixth day of November, 1868, at 12 o'clock M., for the election of Trustees to serve for the ensuing year, and for the transaction of other business.

CHAS. F. SCHULZE, Secretary pro tem.
Office, 428 Montgomery street, San Francisco. no14

Scantor Silver Mining Company.—Location of Mine: Storey County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second day of November, 1868, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, 408 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the fourth day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the twenty-fourth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINGARD, Secretary.
Office, 408 California street, San Francisco. oc7

U. S. Grant Mining Company.—Location of Works: Carlisle, Nevada County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the ninth day of November, 1868, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 226 Clay street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the fifteenth day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the second day of January, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

ENOS TAYLOR, Secretary.
Office, No. 226 Clay street, San Francisco. nov14

Machinery.

VARNEY'S
PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has everrequired repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

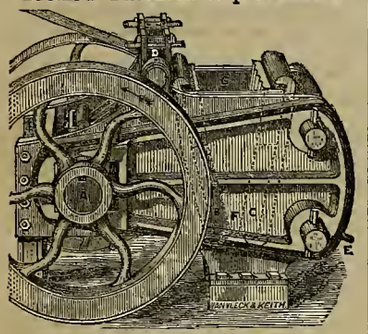
The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Sellers made on the same principle excel all others.—They will bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setters for themselves, at the **PACIFIC FOUNDRY,**

1v1 San Francisco.

Brodie's Patented Improvements



FOR THE TREATMENT OF

Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:

No. 1—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—Price.....$600

No. 2—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour..... 850

No. 3—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour..... 1,200

These Crushers have been erected at several mines in the State of Nevada, and others in Calaveras, Tuolumne and Mariposa counties, to whom applicants can be referred as being the most efficient, cheapest, and least weight compatible with strength and durability, of any Crusher yet erected.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1854. Further particulars will be afforded on application to the subscribers.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of Septemher 29th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.

JAMES BRODIE, Fulton Foundry, or
CHARLES RAILEY,
Express Building, 402 Montgomery street,
12v13tf San Francisco.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE
—BY—

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077

3v13f SAN FRANCISCO.

GLASGOW
Iron and Metal Importing Company

Nos. 25 and 27 Fremont street,

SAN FRANCISCO,

Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings, which they offer to the trade on liberal terms.

21v16-3m W. McCRINDLE, Manage.

IMPORTANT TO LUMBERMEN.

ANDERSON'S
Patent Mulay Saw Hangings.

These Mulays will cut FIFTY PER CENT. MORE LUMBER PER DAY than any other Mulay in use, with fifty per cent. less power. They are very durable, and easily kept in order, and warranted to give satisfaction. No Mulay Mill should be without them, as they will pay for themselves in a very short time. No other mode of manufacturing Lumber can compete with the Mulay Saw with this unprovement. Send for circular. FULLER & CO.,

Manufacturers' Agents for the Pacific Coast, 109 Montgomery street, San Francisco. 17v17-3m

Removal.

NELSON & DOBLE,

AGENTS FOR

Thomas Firth & Sons' Cast Steel, Files,

Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks,

Stone Cutters', Blacksmiths' and Horse-Shoers' Tools,

Have removed to **13 and 15 Fremont street,** near Market, San Francisco.

10v14qr

BY MAIL.—The *Mining and Scientific Press* will be sent by mail to any part of the civilized world. In case of removal subscribers have only to inform us of the post office address of the old and new location, and the paper will be sent accordingly

HYDROSTATIC WORKS.

SAN FRANCISCO

Pump Manufactory

And Patent Water Closets.

M. D. LASSWELL,

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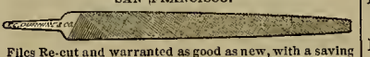
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21v16tf JOHN J. FULTON.

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MICHAEL LAUFENBURGE.

THE "SEA SERPENT."—This strange animal, killed near Eastport, has been on exhibition in this city during the past week, (Oct. 8th.) This animal, part fish and part beast, is over thirty feet in length, and girts twenty-one feet. It has one enormous dorsal fin, two side belly fins, and a broad shark-like tail. About one-third of its length from its tail, iu connection with small fins, it has two hugelegs terminating in web feet. Its mouth makes a line of five or six feet in length, the whole extent of which is set with innumerable small teeth, very much resembling in size and shape the kernel of a species of sharp pointed pop-corn. It has a series of gills which overlap each other like the flounces once the style of ladies' dresses. His immense body, which was estimated to have weighed when captured, about eleven tons, has no framework of bones, its most solid portions consisting of cartilage incapable of preservation. Its skin is dark and tough, like that of the elephant and rhinoceros. There is no record of his species, and to none is it a greater wonder than to naturalists whose attention is being drawn to it. Among others who have had an opportunity of seeing it is Prof. Baird, of the Smithsonian Institute, of Washington, who is as yet unable to place it in the known list of the animal kingdom. Wheu first discovered, it was swimming along leisurely, and when pursued took to the land, and when captured was some 120 feet above high water mark. Numerous shots were fired at it, but none took effect until the gun was loaded with a small spike, which took effect, striking just above the main fore fin. On analyzing the stomach, it contained nothing but vegetable matter, which leads to the conclusion that it subsisted upon vegetables on the bottom of the ocean and shore. From this city it will be takeu to Saco, where it will be exhibited for a few days.—*Portland (Me.) Advertiser.*

NEW WAGON BRAKE.—A new wagon brake has beeu invented by J. S. Butler and A. J. Stucker, of Silver City, Idaho, which produces, according to the opinion of the Owyhee *Avalanche*, four times the frictional effect of the ordinary method, upon the wheels of a wagon. It consists of two brake-bars, one behind and one before the hind wheels; and instead of attaching to the axle, as in the old style, and thereby adding to the strain on the spindle (sometimes several tons) the power is transferred through the sandboard, by means of a sliding bar, to the opposite brake-bar, by which it will be seen the effective force applied to the wheel is just doubled. The distance between the points of friction in the old plan is only from the center to the circumference, that is, from the axle to the brake-bar, while in the new plan the distance is the entire diameter of the wheel, or from one brake-bar to the other, thus giving the latter a two-fold advantage. There are also two brake-shoes, or blocks, doubling the friction surface. A small but not unimportant point in this new arrangement is the fact that the muddy portion of the wheels comes in contact with the hind blocks in their upward course, which consequently prevents the accumulation of mud on the top of the blocks. There is but little more wood and from thirty to forty pounds less iron made use of, and the brake is very simple, there being no unwieldy "roller," so that any blacksmith can make it, and at much less cost than the ordinary brake. A patent for this invention has been applied for through the MINING AND SCIENTIFIC PRESS PATENT AGENCY.

RHODE ISLAND IRON.—In the old French war, a century ago, iron was taken for casting ordnance from the ore beds of Cumberland, R. I. This mine has been abandoned for many years. Of several analyses noue has shown less than 33 per cent. of metal even in the surface rock. The ore contains no sulphur or phosphorus, but has alumina, silica, magnesia and manganese, with a small percentage of titanic acid, which last is believed to add to the value of the iron. Extensive peat beds are found near the mine, and limestone is abundant in the region. The Newport coal, which has been found peculiarly advantageous for smelting iron, can also be very conveniently brought to the place. The surface ore is now shipped to Pennsylvania in large quantities to be mixed with the ores of that State.—*Stockholder.*

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Iron in Canada.—At Moisie River, in the Province of Quebec, on the north shore of the St. Lawrence, a company is working on a large scale alluvial deposits of magnetic iron sand. H. Beanmont Small, in a work recently published at Ottawa, Canada, entitled "Products and Manufactures of the New Dominion," says that the sand used by the Moisie Company yields fully sixty per cent. of malleable iron, and that tests made by the superintendent of the West Point Foundry show it to be of very superior quality.

Development of the Northwest Coast. Geo. H. Atkinson, of Portland, Oregon, recently spoke to the Boston Board of Trade, concerning our northwestern forests, fisheries, and mineral and agricultural resources. It is expected that many of the New England coast people will find their way hither speedily, to develop our northwestern coast resources.

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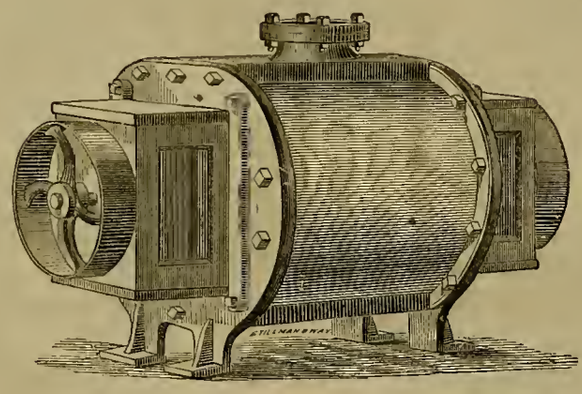
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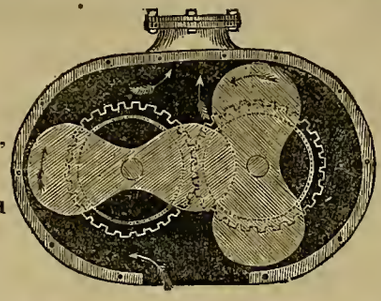
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3. Professor of Ancient Languages.
4. Professor of Chemistry, Mining, and Metallurgy.
5. Professor of Modern Languages.
6. Professor of Agricultural Chemistry and Horticulture.
7. Professor of Civil Engineering, Architecture and Military Science.
8. Professor of English Language and Literature, including Rhetoric and Logic.
9. Professor of Geology, Botany, and Natural History.
10. Professor of Intellectual and Moral Philosophy, and Ancient and Modern History.
11. Drawing.

One of the Chairs is to be filled by the President.

Professor John Le Conte, of Columbia, South Carolina, was elected Professor of Physics, having been strongly recommended by distinguished men of science in the East. His salary was fixed at $3,600 per year; that of the President being $6,000.

FORTHCOMING REPORT ON THE ECUADOR EARTHQUAKES.—The Chilean Government proposes sending a scientific commission to study the earthquake phenomena of Ecuador. If they deal in nothing but facts, put together clearly and compactly, the results will be valuable. The data may thus be furnished on which any one can base a correct judgment concerning earthquake phenomena.

THE CALIFORNIA TOOL WORKS, I. Weichhart, proprietor, has been removed to No. 143 Beale street, near Howard. Connected with these works is a blacksmith and machine shop, so that quite a variety of work is done, more particularly in the manufacture and repair of different kinds of edge tools. The attention of miners, mechanics, and farmers, is called to the advertisement, which fully sets forth the nature and character of the business. *

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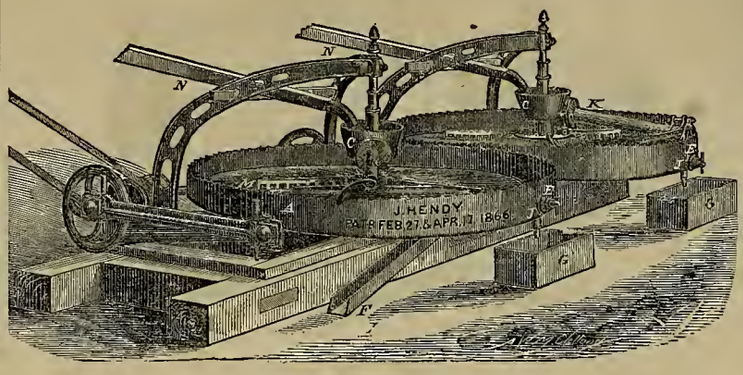
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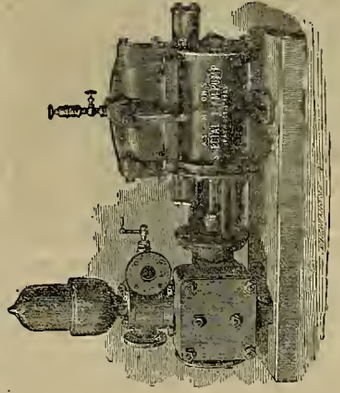
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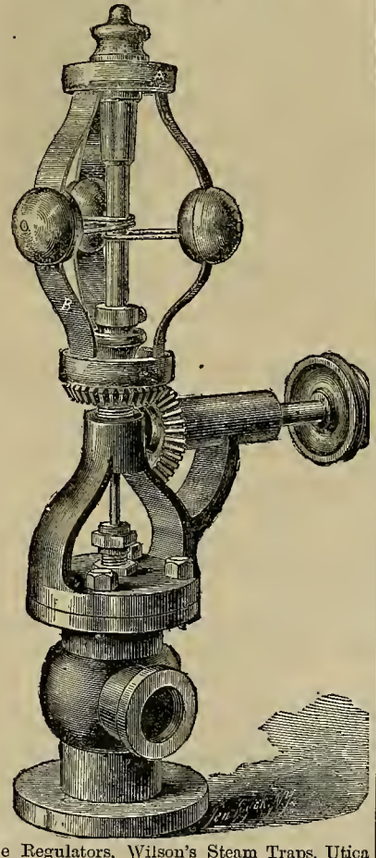
J. HENDY, Patentee.
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Tuition, $125 per year of forty weeks.

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It were fruitless for us to say anything in praise of the MINING AND SCIENTIFIC PRESS. * * * It speaks for itself wherever it goes. Its editors are men of intelligence, ability and honor.

We have had frequent occasion to have business relations with the patent agency connected with this establishment, and have had nothing left to desire in regard to it. Fidelity, promptness and courtesy, soon arranged everything for us to our complete satisfaction. Having had frequent delays at Washington while in that city, we have been surprised at the promptitude with which some of our friends obtained their patents through the agency of Messrs. Dewey & Co.—*S. F. Spiritual Light.*

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SAN FRANCISCO, SATURDAY, NOVEMBER 28, 1868.

VOLUME XVII. Number 22.

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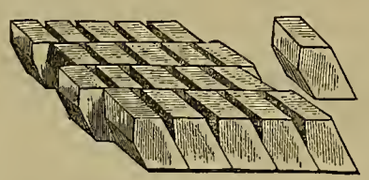
Our Wooden Pavements and Asphaltum Sidewalks.

The city of San Francisco in taking her position as permanent mistress of the Pacific Ocean, and as the powerful queen of commerce to whom continental railroads and the radiating steamer lines of a hemisphere shall bear unceasing and willing tribute, will not fail to give to strangers a good impression at first sight. Our streets will be found better paved, and our sidewalks more commodious and agreeable to the eye, as well to the feet of the "citizen of the world," than those of any other metropolis on the face of the globe. In making comparisons with London, Paris, Berlin and New York, the unsightly and torturing cobbles, and the narrow or rudely constructed sidewalks constituting the rule in the older cities, (modern Paris only excepted), will render the verdict in favor of our young city of the golden era, and of modern improvements, easy and unequivocal. The Rue de Rivoli and the Boulevard des Italiens, are not better paved than Montgomery, California and Kearny streets, and all the other leading streets of San Francisco where the wooden pavements and asphaltum sidewalks are either now in use, or are being constructed as fast as possible, even for stretches of miles leading out over the sand-hills towards the ocean.

We enjoy the satisfaction of possessing in our streets a superior cleanliness, a general cheerfulness of aspect and quiet; at the same time that both streets and sidewalks are of the most perfect quality known for use. Immunity from the infernal din and clatter of vehicles, and a variety of attendant demoniac noises which doubtless have their influence upon the people's manner of thinking and acting, renders life in the city more agreeable, and the tone of the inhabitants more civilized and refined.

When the advantages of wooden pavements are so great, it would be indeed a calamity, if, after all, objections of an insurmountable character should be encountered which would deliver us again to the savage state of a cobble paved, or a horse torturing city. The danger lies in the perishable character of the wood. Many years ago wooden pavements became popular in England, and were tried to a considerable extent, as may be read in almost any of the standard works on engineering; but the material was discarded because its perishability as then applied made it too expensive, and because in the wet season the streets became very slippery.

The Nicholson and other wooden pavements obviate those difficulties as far as possible; though time only can demonstrate whether we shall be able to stay forever rid of the noisy stone pavements. By means of a coal tarred board or paper foundation, the Nicholson pavement people claim that moisture is prevented from rising to the wood and thereby causing the blocks to rot; and by means of a bitumen and gravel concrete in crevices left between the blocks, slipperiness is pretty satisfactorily obviated.



THE PERRY PAVEMENT.

The Perry and the Stow pavements are variations of the wooden block pavement, which have been invented and patented by citizens of San Francisco; both presenting meritorious points worthy of consideration by property-holders as well as by the city authorities. Taking the official statistics of the last year's paving done in San Francisco, it appears that the cobble and Nicholson pavements together put down amounted to 483,513.59 feet, at a cost of $172,087.88; besides which planking was done to the extent of 6,384,339 square feet, at a cost of $237,482.30. As the best pavement will in the end occupy the field, and will afterwards have the replacing of worn out pavements likewise to do, it is not surprising that capital should have entered freely into the competition between the companies, and that the lawyers have already made their appearance in full force, in the infringement case of the Nicholson Company *vs.* Stow,—which is reported to be decided in favor of the defendant, and all further prosecution by the Nicholson Company to have been dropped.

The Perry pavement differs from the Nicholson in having the grain of the wood slanting, as represented by the white lines in the accompanying cut; and in having the crevice or cell V-shaped, and broken by alternation of the blocks. The advantages claimed are that each block leans upon the other, giving to the pavement the effect of solid wood; that the edges of the block, by reason of the peculiar angle of the grain to the surface exposed, are not so easily worn off or beaten down; and that the horse's hoof has less chance to enter and to dig out the contents of the V-shaped cell. Another point which will probably prove an advantage, is that in the wet season when the wood swells, the pavement would not necessarily arch or sag from the pressure lengthwise of the street, since each block would merely rise a little towards a vertical position, by sliding on its neighbor so far as to accommodate itself exactly to the pressure. Simple gravel, without any asphaltum, is put into these cells. To prevent the wood from decaying, it is first treated by the wood-preserving process of Mr. Samuels, consisting of the extraction (by exhaustion) of acids from the wood, and injection of solutions of lime and sulphate of iron. The blocks of the Perry Company are sawed at the Stow Company's mill at the foot of Fourth street, where the Wood Preserving Company's works are also located, the latter consisting of a long iron cylinder, and some wooden tanks to contain the solutions. H. E. Perry, of San Francisco, C. G. Spencer, of Placer County, and W. H. Parkinson, of Oakland, are managing the business under the Perry patent, at No. 622 Clay street.

On Wednesday they were laying their pavement at the crossing of Washington and Montgomery streets, and there are two full blocks to be laid on Montgomery street, between Clay and Jackson, and on Kearny street from Pacific to Broadway, besides which, other contracts are being perfected.

Work of this kind is always done for the property-holders, who sign papers to the agent of the Pavement Company, agreeing to pay a fixed amount per square foot as soon as the pavement has been accepted by the city authorities. Any vertical wood pavement is legal, according to an act passed by the Legislature a year ago.

The Stow foundation pavement has an original feature which looks well theoretically, and which is claimed to have proved no less advantageous in practice. The blocks are of the same size as in the Nicholson pavement, 6x3x6 to 18 inches, but in the place of a board foundation there is nothing but a bed of wet sand. This is packed tightly by means of longitudinal wedges, alternating in rows between the rows of blocks. It is claimed that this pavement will not warp as much as the Nicholson; and during the period for which it has been tried, in pieces on Ellis street between Powell and Mason, and on Merchant street along the City Hall, laid six months since, the claim is not denied; but it is four years since the Nicholson pavements were first laid down on Montgomery street, and a test of one rainy season at least would be necessary to afford proper data for comparison. An important advantage is claimed in favor of the Stow, which the Nicholson Company avoid as a disadvantage, viz: the free circulation from below of moisture through the blocks. The Stow Company claim that the board foundation arrests moisture and causes dry rot. Easy taking up and replacement of the Stow blocks for gas and sewerage repairs, is undoubtedly an advantage in favor of the Stow pavement. Wood preservation by the Samuel's process is also made use of. A block of Stow pavement has just been finished on Ellis street. H. T. Williams, of No. 407 California street, is the agent.

The Nicholson pavement is so familiar to everybody that it will only be necessary to mention that the greater part of the city has been paved with it. In the winter it swells, and in summer it shrinks, letting the sand into the interstices; notwithstanding which it has given satisfaction, and property-holders will prefer it wherever they can afford it. All wooden pavements are, counting in the repairs, more costly than stone. The President of the Nicholson Company is Charles McLane, and the office is at No. 619 Montgomery street.

Asphaltum sidewalks are becoming universal. They are made with Santa Barbara asphaltum and fine gravel, on a foundation of brick laid on boards, underneath which there is sand. Many companies and individuals are doing a thriving business,—amongst whom, Messrs. Bonnet, Duncan, Easton, Menant, Neuval, and Larkin, etc., may be mentioned,—the starting condition being generally the ownership of some favorable locality for the production of asphaltum. Asphaltum pavements are the best for sidewalks ever invented, and are only objectionable on account of the inconvenience of making subterranean repairs. On the Boulevard des Italiens, and other streets in Paris, asphaltum pavement has been well tested, and found very superior for vehicles, but for that purpose it requires nightly repairs, and is unnecessarily costly.

THE RECENT METEORIC DISPLAY came without anybody's having predicted it, a circumstance more extraordinary than the display itself. Prophets of the least degree of sharpness should have two or three predictions constantly in hand, so arranged as to catch certainly either a meteor or an earthquake. Meteoric displays are, however, really foretold on a basis of scientific data; it having been ascertained by astronomers that certain parts of the great ocean of space, in which the planets and stars are floating like little atoms in a lens of water, are more thickly studded with these floating particles than others, and that we may calculate with some show of probability at what times the earth will come into the vicinity of such as it might have the power to attract.

The display on the night of the 11th inst., commenced at about half-past ten o'clock, and from that time until two o'clock it was almost continuous. Many peculiar appearances in the heavens were noted. About one o'clock, a meteor, bursting apparently near the constellation of Orion, left behind it a cloud which assumed a rose-colored appearance, then changed to white, grew thinner, and finally disappeared. Another meteor, at a later hour, left behind it a similar cloud. In the course of the shower several of the meteors left trails of light which were distinguishable for many seconds. The general direction seemed to be from the east towards the west, although a few took a northeasterly and southwesterly direction.

CONTINENTAL Life Insurance Company, 302 Montgomery street, corner of Pine.

Communications.

In this Department we invite the free discussion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Mining in Plumas County.

THE KITTLE MINE AND MILL,

Fudkins & Kellogg, owners, is situated in Cherokee District, Indian Valley, Plumas County. I have been compelled to talk somewhat unfavorable about the mines in Plumas County; but I am pleased to be able to point out to the mining community at least one mine in that county which deserves credit for good management and the regularity of its returns. This mine was opened in the fall of 1861, by Kellogg & Bolinger, by running a tunnel 250 feet on the vein, raising four wings up to the surface, and by building a mill of sixteen stamps, with steam-power. This company could not make the quartz pay expenses, and quit work in March, 1862. Mr. Bolinger being the owner of the mill, moved the same to the Crescent mine, and in that way the Kittle mine was abandoned. It laid idle until March, 1866, at which time Fudkins went into partnership with Kellogg, and commenced work at the mine just where the former company had stopped. Fudkins & Kellogg run a drift on the vein from the old tunnel towards the east, and had some small samples of ore in parcels of ten to twenty tons crushed at the old mill at Dixie Cañon, about one mile below the mine. This quartz, worked in a careful manner, paid from $8 to $15 per ton. Fudkins & Kellogg concluded then to rent the Round Valley quartz mill, having a capacity of sixteen stamps, which is situated near the Ellis ledge, at Round Valley, about one mile above the Kittle ledge, and is worked by steam-power. After repairing the mill they commenced crushing quartz, and cleaned up after the first week's run $3,082. This mill was kept running steadily for six months, and the company had weekly clean ups of about $2,000. After such a test, Fudkins & Kellogg concluded to have their own mill, and to have regular work started at their mine. They bought a lake, which is formed near Round Valley, and all the water privileges connected therewith, built on the outlet of this lake towards the ravine a large and very well constructed dam, in order to have the water-power so increased as to derive sufficient power for their own mill, and surplus water for surrounding quartz mills and for surface and hydraulic diggings, expending for this very valuable property about $15,000. The land covered by this lake is about 400 acres, and the average depth from seventeen to eighteen feet. The New York Quartz Company bought water-power for their mill, at $150 per month for forty inches, the water being taken to the New York mill after it leaves the mill of Fudkins & Kellogg. The latter is built a little below the dam, and is worked by a turbine. The mill has sixteen stamps. The castings were made at the Marysville Foundry, the stamps being 750 pounds in weight. The erection of this work was commenced in the fall of 1866, and was finished the end of June, 1867. Since that time the mill has been kept running regularly, and has given weekly returns of at least $1,500, as the books of the company will prove. These returns were only the results in free gold; the blanket washings are saved, but are not worked. On the mine the company is now erecting new hoisting works,—a 30-horse-power engine,—which will be completed before winter sets in. The company sunk a shaft of seventy feet, and drifted on the vein for 300 feet, on which there is a drift towards the west eighty feet long, and one towards the east 120 feet long. The ground is ready for stoping, and the shaft will be sunk seventy to eighty feet deeper. The ore is now taken from the seventy-foot level, and from the top of the hill where the former company abandoned work; and the quartz is hauled to the mill on a very excellent wagon road. There is very little water in the mine. The company calculate their expenses for mining and milling at $2.50 per ton. Fudkins & Kellogg have proved that low grade ore can be made to pay expenses, and to leave a good surplus, if carefully and economically worked.

Never was it more plainly illustrated what mismanagement can do, than at the once celebrated "Crescent" mine, in Indian Valley. The first discoverers of the ledge, Mr. Pulsifer and James Blood, made some money by working, and afterwards by selling the property, each of them withdrawing with about $75,000. The parties that became owners of this property, Glazier Brothers and W. A. Bolinger, formerly tobacco merchants of Marysville, succeeded finally in working out the property to the present level, not sinking any deeper, and they had to quit last fall, paying twenty-five cents on the dollar, and having their property sold by Sheriff's sale. It was bought by M. Marcuse & Co., Marysville, who is everywhere considered as but the agent of the former owners. The property has very fine hoisting works, and a splendid mill of thirty-two stamps, steam-power. The old mill of twenty stamps, which would have been sufficient for milling purposes, was sold to the Whitney Company (Bolinger and partners). The original owners, Pulsifer & Blood, believed that the new mill of thirty-two stamps was only built in order to succeed in freezing them out. The new mill cost over $100,000, the fine engine and other castings having been made at the Marysville Foundry. An English company was a few years ago on the point of buying this property for $260,000, but the sale could not be brought to a close, as their agent did not believe in the returns of the mine. Fame says, that besides the bullion from the mine, $20 pieces were emelted, and the English agent was by this rumor so much confused that he thought it safer to withdraw. Since then, the mine went down, as I have remarked, in consequence of poor management. The quartz is undoubtedly rich enough to pay largely over expenses, if properly worked. The mill, although in appearance very fine looking property, could be much improved and be arranged to save enough of the free gold and sulphurets to pay a dividend to the company. To enter into more particulars would only lead to laying open the mistakes made in the managements, and such is not the object of this report. But I am confident that a competent party could work this property to great advantage, though not without having to spend a large amount of money,—say about $40,000,—in reopening the mine by sinking and establishing new stopes. The present company I believe would sell the property for about $100,000, which would bring the property to a cost of about $140,000, the improvements being unavoidable.

FUTURE OF AMERICAN SHIP-BUILDING AND SHIPPING ON THE PACIFIC.—Replying to a writer in the Boston *Commercial Bulletin* maintaining that English, French, German, and Danish shipping would get the advantage of American shipping on the Pacific, as they have done in the Atlantic since the rebellion, the *Commercial Herald* of this city says:

He does not comprehend the fact that we can build vessels much cheaper on the Pacific Coast than even in the State of Maine. Our forests supply a better class of timber; we manufacture our own pitch, tar, turpentine and rosin on the spot; the same regions produce the finest of iron and copper; hemp is grown in abundance, almost in the same localities; we manufacture running and standing rigging of as good qualities as the imported, and for lower prices; and when the demand comes we can make as good sail cloth. Scarcely anything will have to be imported, while Maine is compelled to go abroad for all she requires except timber. The labor of skilled artisans commands a higher price in California; but not enough to counterbalance the difference of expenditures in many other respects. Another great element in this connection is the fact that we have, and can obtain to any required extent, cheaper labor than our Eastern or European competitors. The Chinese and Japanese can eliminate the products of our forests, soil and mines, at less expense than the same labor can be performed for in either the Atlantic States or Europe.

THE Central Pacific Railroad Company are building a car of California laurel for the first through trip to New York.

Engineering.

NOBEL ON DYNAMITE.—M. Nobel, the inventor of this blasting agent and of nitroglycerine, read a paper in reference to them at the recent meeting of the British Association at Norwich. We give a small portion of it: "Dynamite consists of 75 per cent. of nitro-glycerine and 25 per cent. of porous silica. Hence it appears to possess only three-fourths of the power of nitroglycerine, the specific gravity of both substances being very nearly the same. But, practically, there is no advantage in the greater concentration of power of nitroglycerine. It cannot, or at least ought not, to be poured direct into the borehole, since it easily causes accidents by leaking into crevices, where it explodes under the miners' tools. It must, therefore, be used in cartridges, which leave considerable windage; whereas dynamite, being somewhat pasty, easily yields to the slightest pressure, so as completely to fill up the sides of the borehole, and leave no windage whatever. The greatest drawback on nitro-glycerine is *its liquid form.* Nearly all the accidents from its use have been owing to leakage, which is very difficult to prevent. Casks are not tight enough; and owing to its expansion on freezing, I have been obliged to resort to square tins. Yet these leak more or less."

REMOVING THE SAND HILLS BY STEAM. Invention has gone to the aid of real estate owners, to assist in the extension of civilization over the sand-hills. At the corner of Market and Seventh streets there is now at work, on the end of a piece of railroad track, a machine on wheels resembling a harbor dredge, but the scoop, a large iron scuttle capable of carrying away a ton of earth, goes into the sand hills instead, and dips them up piecemeal on board of a train of cars, which travel to Mission Bay, where a tract of marsh is being transformed into good dry land, and where the water is being faced all around by a respectable looking solid embankment of about four feet in hight above high tide. Where the sand-hills and tide marshes *used to be*, is already a question partly of history; and we shall soon see retrospective philosophers and the literary newspapers talking about them as they have long been doing concerning the swamps of Canal street, New York.

APPLICATION OF PHOTOGRAPHY TO MAPPING.—Col. Avet, of the Italian Staff Corps, has for years busied himself in seeking means of transforming a photographic impression into an engraving otherwise than by the ordinary tedious manual labor. He has at last perfectly succeeded, and military maps are produced by his process. In twenty-four hours he can copy a large topographic drawing, reproducing it, beautifully printed, on either a reduced or enlarged scale. Some of his reproductions are so small that they can be made out only by the help of a strong magnifying glass. The result of his most valuable invention will be to save the immense amount of labor and loss of time hitherto indispensable to the multiplication of topographic drawings. The invention may be applied to all kinds of drawings.

HYDRAULIC LIFTING AND MOVING OF BUILDINGS.—The large building at the southwest corner of California and Battery streets, estimated at a weight of about 3,000 tons, is to be raised by 55 hydraulic presses; the contract for raising it a few feet and moving it 30 feet back, having been let to Stratton Brothers at $14,000. Serious damage had been experienced from the earthquake, and the building is now to be placed on the new street line.

SURVEY OF THE NORTHERN BOUNDARY OF NEW MEXICO.—Astronomer Darling, and that party sent to determine survey and mark the northern boundary of New Mexico, reached the Rio Grande, 148 miles west of the initial point, on the 6th of September. They expected to complete the work by the middle of November. The whole length is 3.0 miles.

A GREAT YEAR FOR RAILROAD BUILDING. There has been great activity in railroad building during the present year. Aside from the extension of the Pacific Railroad, we do not recall the formal opening of any long routes, but a vast number of "connections" and short routes have been completed. We read of them over all the States. In Maine they are building short lines everywhere, to work out the problem of their great through line from the Atlantic to the Pacific. In the rest of New England similar activity is witnessed, and the iron road is stretched from town to town. Wherever there is population or a mill, there a feeder is constructed to join some through line, and so bring the remotest parts of the six States into quick communication with the great centers of trade. In this State, four or five long lines are under way, crossing the State at favorable points, and uniting remote towns of importance with this city. At the West and South, long lines are projected, and work has been begun which will soon connect the Lower Mississippi and the Gulf with the great trunk lines that already cross from the Upper Mississippi to the Atlantic. Great as has been the extension of railroads in this country, the present ten years, counting from the close of the late war, will witness a more marvelous increase. It is seen that if the stock of new roads does not pay a dividend, that the country is benefited by the cheapening of transportation, the new facilities of intercourse, and the increase in value of taxable property. This circumstance has led to the adoption of the plan of local and municipal subscriptions, and the taxpayers of hundreds of localities readily vote a town subscription.—*N. Y. Commercial Advertiser.*

THE INDIANS AND THE "SMOKE WAGONS." Those engaged in the construction of the Central Pacific Railroad have a good deal of fun with the Indian tribes they encounter. Never having seen or dreamed of such a thing as a locomotive or a train of cars, they are greatly astonished at seeing the trains running to and fro, and backing and prancing about with no visible motive power. When the cars came among the Piutes they named them "smoke wagons."

LAKE NAVIGATION CANAL.—The St. Clair Flats are being canalled by the enterprise of Western merchants, a distance of 1¼ mile, and to a width of 300 feet, so as to admit vessels drawing 13 feet of water. The canal is furnished with timber dikes, one on each side, running the entire length, which will be filled from the excavation from the channel. The banks, besides, are being made fifty-eight feet wide, and five feet above water.

STOCKTON AND TULARE RAILROAD.—There is every reason for believing that the work of constructing the Stockton and Tulare Railroad will be commenced at an early day, and that the northern terminus will be established in this city. Kidder, the engineer of the company, arrived two days ago from San Francisco with a corps of men, tents, and the necessary camp equipments for the field work, and will commence a preliminary survey of the route immediately.—*Stockton Gazette.*

NEW RAILROADS BUILDING IN PERU.—Henry Meiggs has been authorized to make a survey of the proposed line to Janja, crossing the Andes.

The Cerro de Pasco Railway Company has been formed in Lima. This will be the first railway in the interior of Peru.

RAILROAD CONDUCTORS.—Gov. English, of Connecticut, has given all railroad conductors commissions as special policemen, thus enabling them to more completely govern the conduct of passengers.

ELEVATED RAILWAY.—Legal obstructions to the building of the New York elevated railway have been set aside, and the construction is going on.

MISSISSIPPI BRIDGE.—The business men of St. Paul are negotiating the question of building a bridge across the Mississippi at or near Denoyer's place. They estimate that the structure will cost ninety thousand dollars.

THE NEW RAILROAD BRIDGE crossing the American River will be completed in about three weeks.

ON the Petaluma and Healdsburg Railroad the graders have now reached a point near the Halfway House in Santa Rosa valley.

Mechanical.

Puddling Iron.

Mr. Siemens read an elaborate paper at the Norwich meeting of the British Association, which is spoken of by the *Colliery Guardian* as the most important of those presented. That journal says: "The paper was of a very scientific and technical character, and proved that the present process of puddling was very defective, involving great loss of metal, waste of fuel and of labor, and an imperfect separation of the sulphur and phosphorus. After referring to the chemical constituents of iron, and explaining the manner in which these were affected by various puddling processes, he went on to observe that he was unable to say how nearly they would be able to approach the results indicated by the chemical reasoning he had adopted; but that much could be accomplished by the means within reach was proved by the result of eighteen months' working of a puddling furnace erected to his designs at the Bolton Steel and Iron Works, in Lancashire. This furnace consisted of a puddling chamber of ordinary form, heated by means of a regenerative gas furnace. The advantages of this furnace were that the heat could be raised to an almost unlimited degree; that the flame could be made at will oxidizing, ucntral, or reducing, without interfering with the temperature; that in-draughts of air and cutting flames were avoided, and that the gas fuel was free from pyrites and other impurities, which were carried into the puddling chamber from an ordinary grate. In this respect the new furnace presented the same advantages as puddling with charcoal. With regard to the economy of material, experience had proved that an ordinary furnace receiving charges of 484 lbs., yielded an average of 426 lbs., representing a loss of twelve per cent., whereas the gas furnace received charges averaging 428 lbs., and yielded 413 lbs., representing a loss of 3.5 per cent. Moreover, the gas furnace turned out eighteen heats in twenty-four hours, instead of only twelve heats, the limit of production in the ordinary furnace. The quality of the iron produced was also decidedly superior. The consumption of fuel was also greatly in favor of the gas furnace.

How to Oil Belting.—The following is from an article on "the preservation of leather," in the *Shoe and Leather Reporter:* When oil is applied to belting dry, it does not spread uniformly, and does not incorporate itself with the fiber as when partly damped with water. The best way to oil a belt is to take it from the pulleys and immerse it in a warm solution of tallow and oil. After allowing it to remain a few moments the belt should be immersed in water heated to one hundred degrees, and instantly removed. This will drive the oil and tallow all in, and at the same time properly temper the leather.

Hardened Iron Mold-boards.—It is said that the following method of treatment gives to plow mold-boards all the hardness and temper of steel, in combination with the toughness of iron. The mold-board (good iron) is heated and dipped into molten iron. It remains there ten seconds, when the two surfaces become heated to a white heat, while the center is not heated through. It is then immediately dipped into water; the surfaces come out harder than the highest tempered steel, while the interior is still iron and retains all the toughness and strength of the iron. The advantage claimed for this invention is that the plows made by this process will take the finest and hardest polish, while they will be tough enough to endure any reasonable knocking about in stony soils.

Black Varnish for Iron Work.—Dr. Lunge distills gas-tar until nearly all the volatile products are got rid of. He then stops the distillation and dissolves the residual pitch either in the heavier oils, or, if a very quickly drying varnish is required, in the light oils or naphtha. This varnish is, of course, the original tar, minus the ammonia, water, carbonic acid, and other things which give it its disagreeable odor, and make it so long in drying.

The Rubber Tires.—In reference to Thomson's road steamer,—which we have already spoken of as having attracted much attention, and the performance of which was so far beyond what had been expected of it,—the London *Engineer* says:

"This road steamer has wheels of a material which at first sight does not look a very likely substance to stand the heavy work they are subjected to. The tires are made of bands of vulcanized india-rubber about twelve inches wide and five inches thick. Incredible as it may appear, this soft and elastic substance not only carries the great weight of the road steamer without injury, but they pass over newly-broken road metal, broken flints, and all kinds of sharp things, without even leaving a mark on the india-rubber. They do not sink into the road in the least degree. They pass over the stones lying on the surface without crushing them.

The power required to propel the steamer is much less than what would be required if the tires were hard and rigid. It might at first sight be supposed that it would take a great deal of power to propel a heavy carriage on soft tires; but if the tires are elastic as well as soft, the power used in compressing the tire in front of the wheel is nearly all given back as the elastic tire expands behind the wheel.

Trials have been made at Leith by running the steamer across a soft grass field, in which an ordinary steam carriage would certainly have sunk. The way it ran through the grass, without even leaving a track, was very remarkable; but when it made for a part of the field which had just been covered with loose earth to the depth of one or two feet, and ran straight across, and then back through the deep soft soil, the surprise of those present was great indeed. The weight of the steamer is between four and five tons; and yet the wheels in passing over the loose earth compressed it so little that a walking stick could easily be pushed down in the track of the wheels without any exertion. It is quite clear that one of the great difficulties farmers have had to contend with in using steam engines for plowing is now removed, for the road steamer will run through any field, even when newly plowed, without any difficulty."

Weight on Driving Wheels.—Mr. Fairlie, an English engineer, who has paid much attention to the subject, asserts that the cost of maintaining a line of railway is *in exact ratio with the weight on the driving wheels of the locomotive engines* which work it. It is not at all a question of train tonnage, but of the sledge hammer locomotives. He says: The Cornwall line is worked by a 40-ton tank locomotive on six wheels, which when at work represents a rolling mass whose effect through constant jerking and oscillating is nearer 60 tons on the rails. It is useless attempting to work with any hope of economy a line on which such engines are used. The Metropolitan Railway is worked by locomotives almost as destructive as the Cornwall engines, consequently that line has been relaid with steel rails three times in less than six years.

Suspension Bridge Across the Hudson River.—The new bridge will have a clear span of 1,600 feet; the longest yet built upon the continent. The twenty cables will contain seventy thousand miles of steel wire. The bridge will be capable of carrying at one time 32 passenger cars.

Lowe's Marine Propeller.—The last improvement made by this inventor is the adoption of "radial blades so shaped that when viewed edgewise or endwise, instead of forming portions of the thread of a screw, they present a curved line curling in opposite directions from the center to the edges of the blade."

To Keep Iron Implements from Rusting.—Wash and rub over them a mixture of lard and turpentine. The paint-pot and brush should be kept and used by every farmer and mechanic. All wood work ought to be kept constantly well painted, especially the wood work of wagons, plows, etc.

Sargent's Brick Machine, with about five or six horse power, turns out 20,000 bricks daily, which are superior to any made by hand. The cost of the machine is $1,000.

Scientific Miscellany.

The Spectroscope and the Motion of the Stars.

Fraser, for October, has an interesting article from the pen of R. A. Proctor, B. A. F. R. A. S., entitled "News from Sirius." The writer refers to the recent experiments and conclusions of "the eminent physicist." Mr. Huggins, of the Royal Society of London, who has made some observations upon the spectroscope as a means of measuring the distances and the motions of the stars.

We can form an estimate of the *transverse* motion of stars, by their apparent change in place as referred to other stars. But the motion directly towards or from us, is not attended with any such change of place. The star 61 Cygni, one of the few fixed stars, the distance of which has been measured, travels 1,450 millions of miles a year, in a direction transverse to our line of sight. But suppose it to be also *approaching* us. Its rate of motion towards us must be determined in some other way. No change is perceptible in its appearance. Even if it approached at the tremendous rate named above, its *brightness* would not appear to be increased; for, as the distance of the star from us is fifty thousand times the aforesaid 1,450 millions of miles, it would take a thousand years for it to get a fiftieth part nearer to us than at present.

It has been suggested that the *color* of stars might be an aid in the estimation of their motions. Light is propagated, like sound, by the vibrations of a transmitting medium. When these vibrations are less in number than 450 billions per second, they manifest themselves merely as heat,—not light. Increased in rapidity to 500 billions per second, they produce upon the eye the impression of *red;* 50 billions more, of *orange;* 50 more, *yellow;* 50 more, *green;* 50 more, *blue;* 50 more, *indigo;* and 50 more,—that is, when they amount to 800 or 850 billions in a second,—*violet.* Now we know that the whistle of an approaching locomotive is apparently sharper, and that of a receding one flatter,—than its real pitch;—that is, the vibration of the sound-conducting medium are in the first instance apparently more and more rapid, and in the second less and less so; although we know that they really remain the same. In like manner it has been proposed to judge of the motion of an approaching or receding star by its changing color. But this may be so modified by circumstances as to lead to error.

The parallel dark lines which cross the solar spectrum are so arranged as to be each easily recognizable by those who have once become acquainted with their relative position. As the spectra of the stars, also, have lines corresponding to these, we have only to compare the position of one of these lines, after it is once recognized, with the position of the corresponding line in the solar spectrum. If these two positions are not the same, the star is either receding or approaching; the first, if the shifting is towards the *red* end, and the last, if it is towards the *violet* end, of the spectrum. Upon this were based the observations of Mr. Huggins. The conclusion derived from these observations was, that Sirius is receding from the earth at the rate of 930 millions of miles per year. As, however, our sun, with its system of attendants, is traveling at the rate of 150 millions of miles per year towards a point in the constellation Hercules, directly opposite to Sirius, we must deduct that,—leaving only 780 millions of miles as the usual rate of recession of Sirius from the earth. If, again, we take into account its transverse motion, it fixes the movement of Sirius in space at upwards of 1,000 millions of miles per year.

In the course of his concluding remarks, Mr. Proctor says: "There now really seems a promise that one day something may come to be learned respecting the movements of the sidereal mechanism. The constellations which now seem to be scattered without discernible law over the vault of heaven, may be forced perhaps to reveal to us their secrets, the law of organization which binds them into a system, the paths along which their component stars have been traveling before they reached their present position, and those along which they are to travel for many future ages."

A Remarkable Aerolite.—Dr. Franklin Massena sends a communication to the Anglo-Brazilian *Times* of Aug. 7th, in reference to an aërolite which he and his scientific associates saw while at the Observatory of Italaya on July 30th. After describing its immense size, its direction and its brilliant scintillations, he goes on to say: "This aërolite so disturbed the magnetic instruments that the declinometer turned its pole from the north toward the west and stuck itself in the box where it found resistance; the horizontal magnometer turned toward the west eight divisions of the scale; the vertical magnometer fell in its center of gravity, and finally, the compass oscillated 15° from north to west. I showed Sr. Arsenio the disturbed state of the declinometer. It is therefore, demonstrated for physics that an aërolite has an intense action upon the north pole of magnets, powerfully attracting them.

"The following are some mathematical elements of the orbit of this body: Meridien passage, 5h. 55′ 33″, on July 30, 1868; declination, 65° south; vertical distance, 42° 32′; setting, 50° 15′ W. by S.

"With these data the orbit of the aërolite is found to have 17° 40′ of inclination upon the line of the earth's rotation, with its movement contrary to that of the earth.

Hydro-carbons from Organic Matters. Berthelot uses as a re-agent for the transformation of organic bodies into hydro-carbons, an aqueous solution of hydriodic acid of density 2. The less the amount of hydrogen contained in the organic substance to be decomposed, the greater the quantity of acid employed. The two are heated in a sealed tube to 527° Fah. for ten hours. A series of changes take place which result in transferring the hydrogen in the acid to the carbon, and forming compounds generally homologous with marsh gas, or hydride of ethyl. Alcohols, ethers, aldehydes, acids, aromatic carburets, alkaloids, complex nitrogenized bodies, when heated, are broken up by the superior saturating power of hydrogen, which under these conditions, displaces the strongest electro-negative elements.

Vibration of Steel under Different Magnetic Conditions.—The following interesting experiment, made by M. Treves, is given in Galignani: "Two steel tuning forks brought to the same pitch were topped with small mirrors, and placed opposite to each other in two vertical planes at right angles. One of them, No. 1, was, moreover, surrounded with a strong coil of wire receiving an electric current from a nitric acid pile composed of four elements. A fiddlestick being now drawn across each of the tuning forks, the vibrations commenced, and immediately a perfectly motionless luminous circle was produced in the mirror of No. 2. But no sooner was No. 1 magnetized by the admission of the current, than the circle became an ellipse, and swayed to and fro, denoting the action of a new vibratory motion. As soon as the current ceased the figure became a fixed circle again. This experiment may serve to investigate the vibratory powers of iron and steel according to their composition and physical state."

More Relics.—The bones of a gigantic race of Indians have been discovered near Marlboro Point, on the Potomac river. The discovery of a large number of beads, moccasins, etc., leaves no doubt of the character of the remains. Further investigations are to be made. The condition of the remains indicate that they must be centuries old.—*Scientific American.*

New Patents Issued to Pacific Coast Inventors.

Especially reported by the U. S. Patent Office, Washington, D. C., to DEWEY & Co., American and Foreign Patent Solicitors, and Publishers of the MINING AND SCIENTIFIC PRESS.

FOR THE WEEK ENDING NOVEMBER 30.

No. 83,820.—IMPROVED HAIR RESTORATIVE. E. J. Balcear, of Martinez, Cal.:

I claim the within-described ingredient or root, treated and prepared in about the manner herein specified, for the purposes set forth.

The above is a very ingenious application of the common soap root so abundant on the Pacific Coast. The inventor, a lady, has evidently secured a valuable patent.

No. 83,839.—IMPROVEMENT IN HARVESTERS. Jas. F. Earl, of San Francisco, Cal.:

1. I claim the vertical adjustment of the cutter-frame relative to the main frame, upon a pivot or shaft, in advance of the main axle, by means and substantially in the manner described.

2. The arrangement of the driving-gear, in combination with the vertically-adjustable cutter-frame, substantially as described, whereby the hight of said frame may be adjusted without disturbing the working relation of the gear-shafts.

3. The rake-head, constructed as described, in combination with teeth applied thereto, and operating substantially as described.

4. The manner of actuating the rakes by means of the straps or belts, and drums or rollers, and shifting clutches, operating as described.

5. Operating the shifting-clutches, by means of the rake head acting alternately thereon through the clutch-levers, as described.

6. The slotted plate, to which the middle fingers are attached, forming the box inclosing the springs, and permitting the withdrawal of the lever-staple and the removal of the sickle, as described.

7. The arrangement of the fulcrum of the reel-frame, in rear of and above the pivot or axis around which the sickle-frame is adjusted, in combination with means for simultaneously adjusting said frames, whereby the relation of reel and sickle is varied when the hight of cut is varied, as described.

8. The hollow reel-shaft, provided with the end-hubs and with the central stiffening-sleeve and central bub, as described.

9. The adjustment of the steering-wheel upon a horizontal axis or pivot, for the purpose of maintaining the same in a vertical position, irrespective of the position of the main frame and cutters.

10. The attachment of the driver's stand or seat and the sickle-adjusting mechanism to the horizontal axis upon which the steering-wheel is adjusted, substantially as and for the purpose set forth.

11. The combination, with the grain-platform, of a reciprocating rake, adapted to deliver the grain at either end of the platform, as set forth.

83,842.—IMPROVED QUARTZ CRUSHER.—Edward Ford, San Francisco, Cal.:

I claim the horizontally-acting batteries A and B, when placed one above the other, and acting against the vertical dies E E, with the screen M, and feeding the ore from one to the other, the whole constructed and operating substantially as and for the purpose herein described.

This invention consists in placing a series of vertical dies one above another, also a series of stamps which act horizontally against these dies by means of springs behind them, and which are operated by cams and tappets, so that as the ore is fed to the upper stamp it is reduced to a certain degree of fineness, and then passes through a screen to the second, where it is still farther reduced. The stamps have a certain length of face, and are run at such a speed as to catch the falling ore as it passes between them, and the dies thus effectually crushing it.

83,845.—IMPROVED DREDGING MACHINE.—Andrew J. Gove, San Francisco, Cal.:

1. I claim the beam E, turning about the axle c, and the governing-chain G, G', moving about the drum H, together with the excavator B, and its lever D, pivoted to the beam E, at the point F, also the regulating chain I, the whole constructed and arranged substantially as and for the purpose described.

2. The beam E, and the lever D, with its excavator B, working in the well or opening a, substantially as and for the purpose herein described.

The object of this invention is to provide an improved machine for dredging out the beds of rivers, or other places where the mud or sand to be removed is under water, and it consists of strong horizontal wooden framing or staging, mounted upon the requisite hoying apparatus, which is made in two sections, at one end leaving space sufficient for the spade or excavator to pass up and down through it. The spade or excavator is attached to the end of a lever of sufficient length, which is connected at its fulcrum to the end of a small beam. The center of this beam is secured to the framework on each side of the division in the float, by a bolt passing through it, upon which it turns. A chain is attached to the lower side of the beam near its upper end and passes through the lower end over a sheave, and is attached to the lever midway between the fulcrum and weight. A similar chain is secured to the upper end of the beam, and passes back over a sheave and to the opposite end of the beam, and a third chain is attached to the excavator, and passes up and through a sheave in the framework, directly over it, and serves to raise and lower it.

83,862.—IMPROVEMENT IN HORSE-POWER FASTENER.—Richard Knott, Suisun Cal.:

I claim the arrangement of the frame A, with arms E, E, attached to the timbers C, C, the hooks G, G, and adjusting-screw I, I, for fastening the horse-power to the ground, retaining it in position, and leveling it, substantially as herein described.

The inventor claims that by this device the horse-power is confined more securely to the ground, and can be taken up and replanted by one man in less time than it takes two men to accomplish the same object by the ordinary method. But two adjustable pieces of timber are employed.

83,868.—IMPROVEMENT IN APPARATUS FOR COLLECTING PRECIOUS METALS.—James T. McDougall, San Francisco, Cal.:

1. I claim vertical or inclining iron standards C, C, with stems or bars D, D, resting on a plate or plates of copper B, or plates of some other metal having affinity for mercury, when used for collecting the precious metals, substantially as described.

2. Iron standards, with a supporting horizontal base on the edge of which there are projections, E, E, so that when placed side by side, open spaces, F, F, will be formed between the said staudards, having one or more stem or bars projecting upward, all of which serve as riffles when placed in running water, substantially as and for the purpose specified.

3. Iron stands, with hollow projecting stems H, containing bars, slips, or tubes of copper, H', or other metal having affinity for mercury, communicating with the water outside through slits or openings, I, I, substantially as described.

4. Copper resting on iron, the iron resting on copper, the copper having amalgamated, silvered, or mercurialized surfaces, when placed in sluice-boxes, or other apparatus, or equivalent device, designed to intercept and collect the precious metals moving with the water in the manner and for the purposes herein specified.

5. The metallic obstructing and collecting surfaces or equivalent device, separately or in combination, whether placed in sluice-boxes, concentrators, or other apparatus for collecting the precious metals moving in running water, substantially as described.

This invention is intended for quartz mills, placer mining, and other places where water is used for washing the precious metals, and is varied in its construction for different purposes. The inventor says: I place in my sluice-box a plate of copper or other metal, the upper surface of which is either amalgamated, silvered, mercurialized, or in its natural condition; this plate is bent at right angles to form the side plates. Upon the bottom of this plate I place iron standards having a square or oblong base, single or in sections, from which one or more stems or bars project upward. On the sides and corners of the bases there are projections, so that when the standards are placed side by side there are spaces between them. Loosely fitting copper tubes having amalgamated, silvered, or mercuriallized surfaces are placed over the projecting stems, of sufficient length to reach the surface of the stream. These stems and tubes serve as vertical riffles, and when placed in rows across the running stream, convert it into eddies, between each series of standards. The particles of metal floating in the water, however buoyant they may be, are drawn into the eddies, and by the well-known whirlpool movement, are subject to a double impulse; a downward and outward movement from the vortex of the eddy, and the metal is brought into contact with the amalgamated surfaces where it is retained. An engraving with a full description is necessary to exhibit the advantages and entire principles of this invention.

83,906.—IMPROVEMENT IN SELF-ADJUSTING HOOKS.—William Bisbee, and Fleming G. Kearn, Yreka, Cal.:

We claim forming a notch b', upon the inner side of the head or heads of the hook B, substantially as herein shown and described, and for the purpose set forth.

83,919. — IMPROVEMENT IN FASTENING HORSE-POWERS TO THE GROUND.—Walter Buchanau, Jr., Main Prairie, Cal.:

I claim the straps C, and h, b, and the beams D, D, and G, together with the links g, g, and m, with their keys, the whole constructed and operating substantially as and for the purpose herein described.

This device was illustrated and described in the PRESS, August 22d, 1868.

83,961.—IMPROVED JOURNAL-BOX.—George H. Henfield, San Francisco, Cal.:

1. I claim the frame C, having a center-bar, b, secured to the shell A, by pins d, d, and dove-tailed ends in the recesses h, h, in combination with the soft-metal bearings B, B, separated by the single longitudinal bar b, substantially as described.

2. The frame C, surrounding and separating longitudinally the soft-metal bearings B, B, the latter secured to the shell A, by pins e, and the former by pins d, and dove-tail recesses h, h, protected and strengthened by the corner-pieces k, k, cast upon the shell, as herein shown and described.

84,001.—IMPROVED MACHINE FOR SCOURING, BLACKING, AND FINISHING LEATHER. F. W. Rust, Umatilla, Oregon, Assignor to Self, A. E. Rogers, and A. C. Gibbs.

1. I claim the scouring blocks H, hinged to the pendulum rod, and held in place by rods G, working through the cross-heads F, and provided with springs substantially as described.

2. The hinged levers I, attached to the swinging frame, and arranged to operate or adjust the scouring block H, substantially as set forth.

3. Suspending the scouring apparatus, upon a yielding support, and providing it with a lever and weight, arranged substantially as described, for the purpose of adjusting the scourers to the thickness of the leather operated upon and also to regulate the pressure of the scouring devices, as described.

4. The hollow pendulum or its equivalent for holding the blacking, and feeding it upon the leather while in operation, substantially as set forth.

5. The perforated cross-pipe T, or its equivalent, when arranged to move with the scouring or smoothing devices, for distributing the blacking evenly over the surface of the leather, as described.

6. I claim the platform B, provided with a series of balls C, secured loosely in its under side, substantially as set forth, for the purpose of enabling it to be moved in any desired direction, while the machine is in operation.

HUMAN SACRIFICES TO NECESSITY.—Coal is needed to make power, to drive machines, and to warm millions of people's homes in winter; therefore coal we must have. Poor people in a thickly inhabited country, as elsewhere, must live by labor, and labor must be done to meet necessities, in order to obtain their price; therefore helpless people, under such circumstances, must go into the coal mines, and there become sacrifices to the world's cruel, inexorable demand. It is an old, old story: the people *will* permit themselves to be sacrificed in New Caledonia as stolidly and stupidly they used to bear it on the Hawaiian *heiaus;* on the American railroads and in the English coal mines precisely as they formerly submitted to it in the religious prison yards, and in castle courts. The following is the latest:

WIGAN, (England), Nov. 26.—A terrible explosion occurred in Arley Mine Colliery. Three hundred men were at work in the pit at the time, most if not all of whom perished; thirty-two bodies have thus far been recovered. Hundreds of the relatives and friends of the unfortunate miners are gathered at the mouth of the pit, and the scene is heart-rending.

MONTEZUMA SMELTING WORKS.—We learn that in consequence of attachments served by Messrs. Spence, Rollins, Brown, Nason and others, these works will unfortunately rest for a while under a disability.

Contributions for our Cabinet.

Under this heading we shall continue to mention and describe, according to merit, such specimens of ores, minerals, fossils, curiosities, etc., as may be presented, or forwarded to us by mail or express, prepaid. Each article will be numbered and placed in our cabinet, and recorded with the name of the donor, and the claim or location from whence it came.

Nos. 289 to 293 inclusive were presented by Mr. J. H. C. Bennett, of Santa Clara, proprietor of a manganese vein at Penitencia Creek, ten miles from Santa Clara, where about eighty tons of ore—psilomelan and pyrolusite—have been taken out.

No. 289.—Wad, with pyrolusite, or brown and black oxides of manganese. Used for chlorination, bleaching and making oxygen.

290.—Psilomelan, or black silicate of manganese.

291.—Rhodonite, or manganese spar, being the red silicate of manganese. It changes on exposure to the air into psilomelan. Calcspar is intermixed.

292.—Psilomelan and Rhodonite mixed, the latter gradually changing into the former by oxidation. Free silica, and calcspar in sufficient quantity to effervesce.

293.—Rhodonite, with clear and distinct joining to psilomelan, into which it becomes beautifully transformed as soon as sufficiently "cooked," as the miners say, in the oxygen of the air. In Rhodouite, the manganese is Mn O; in psilomenon it is $Mn O^2$.

Mr. Bennett raises the query whether Rhodonite would not answer as well as pyrolusite for the manufacture of manganese iron. For making oxygen it will not do, as it is already in the reduced state to which pyrolusite is brought, after being divested of half its oxygen when put into the fire, or subjected to the influence of acids.

294.—Arsenical nickel, or red nickel pyrites, with hornblendic gangue, from a vein in the high Sierra in El Dorado County. Charles Evans.

295.—Casing to the above, of nickeliferous iron pyrites, and sulphuret of nickel.

296.—Ore of the Silver Cord ledge, Owyhee County, Idaho, consisting of dark red antimonial silver (pyrargyrite) and auriferous iron pyrites. This vein is three to seven feet wide, and the ore, found at a depth of 157 feet, assays $300 to the ton. Presented by L. G. Lewis, one of the owners of the mine.

NEW INCORPORATIONS.—Articles of incorporation have been recently filed in the County Clerk's office in this city as follows:

PACIFIC COÖPERATION RELIEF ASSOCIATION.—San Francisco. Nov. 23d. Trustees: H. A. Gorley, Theodore Cocknell, H. T. Graves, Henry R. Reed, C. H. Pollard, D. M. Gore, Albert Folsom, Joseph M. English, Thomas B. Leurs, S. P. Taylor, J. F. Michell, Wm. B. Lake and George L. Smith.

HENRY STREET HOMESTEAD ASSOCIATION. San Francisco. Nov. 23d. Capital stock, $39,600; 132 shares, $300 each. Trustees: R. J. Tiffany, G. W. Bunnell, J. H. Bucklie, H. W. Rappleye and T. B. Lewis.

POINT LOBOS HOMESTEAD ASSOCIATION.—San Francisco. Nov. 25th. Capital stock, $15,600; 48 shares, $325 each. Trustees: E. F. Clark, H. H. Noble, M. T. Brewer, H. Mahan, A. Mills, J. W. Nye and P. H. Blake.

ELECTION OF OFFICERS.—QUAIL HILL M. Co.—Nov. 25th. Trustees, Geo. W. Beaver, (President), A. J. Pope and W. E. Dean; Secretary, T. W. Colburn.

AMONG the marvellous improvements of the age is *inhalation*, for diseases of the head, throat, lungs and chest, recently introduced by Dr. Nestell, of the N. Y. Lung Institute, whereby healing vapors, at the natural temperature of the air, are inhaled from a crystal globe, thus going directly to the seat of the disease, and through the same door by which it entered. This is the only rational medicine, it strikes us, for transmitting those remedies orthodox with the accepted science, but in a subtle form, and a most powerful auxiliary for the alleviation and cure of respiratory affections. This theory, so opposed to the old, affords sufficient groundhope with invalids,—at all events, we arrive at that opinion from personal convictions, not mere observation and hearsay, and confidently commend it to the afflicted.

*

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board.

San Francisco, November 28, 1868.

City Stocks.

In reference to miscellaneous stocks the market is inactive. We note sales of Spring Valley Water stock at $65, and California Steam Navigation Company at 52½ per cent.

The receipts of the local insurance companies during the month of October and previously this year, according to the returns in the hands of the Internal Revenue Collector of this district, have been as follows:

	October.	Previously this year.	Total.
Pacific	$102,659	$636,046	$738,705
Union	28,035	212,526	240,561
National	.....	201,253	201,253
Fireman's Fund	20,794	178 029	198,823
Builders'	12,386	181 413	193,799
California	14,080	116 231	130,321
Merchants' Mutual Marine	28,864	173 187	202,051
Occidental	14,537	77,588	92,124
Home Mutual	12,111	101 020	113,131
San Francisco	.....	23,974	23,974
Peoples'	8,747	60.162	68,909
Totals	$242.222	$2,063,429	$2,305,651
Same time in 1867	236,977	1,730,182	1,967,159
Increase in 1868	$ 5.245	$333,247	$ 338,492

The returns were made upon a legal tender basis, the rate—72 cents for January, 71 cents for February, 72 cents for March, April, May and June, 70 cents for July and August, 72 cents for September, and 74 cents for October—being fixed every month by the Assessor of the district.

The National and San Francisco have disincorporated and their outstanding risks have been transferred to the London and Liverpool and Globe Insurance Company. The San Francisco disbursed a dividend of 2½ per cent. per month, or $7 50 per share, for the quarter ending with September 30th.

The above statement shows a decrease of $18,019 as against the receipts in September. The receipts of the several companies in October, as compared with September, show the following difference:

	Increase.	Decrease.
Pacific	$7,052	.....
Union	.....	$8,395
Fireman's Fund	.....	4,679
Builders'	.....	7,440
California	.....	7,284
Merchants' Mutual Marine	2 295	.....
Occidental	2,389	.....
Home Mutual	.....	2,065
People's	397	.....

The receipts of the city railroads for the month of October and previously this year, have been as follows:

	October.	Previously this year.	Total.
Omnibus	$27,480	$230 793	$258,273
North Beach & Mission	22,097	204,570	227,667
Central	15,186	129,902	144,088
Front Street, Mission & Ocean	8,272	76,981	85,253
Market Street	12,123	84,573	96,696
Potrero and Bay View	2,866	18,955	21 821
Totals	$89,041	$745,974	$835,018
Same time in 1867	79,108	607,860	686,968
Increase in 1868	$9,936	$138,114	$148,050

Showing an aggregate decrease of $2,142 in October as against the receipts of September. The receipts of October as compared with September show the following difference:

	Increase.	Decrease.
Omnibus	$338	.....
North Beach and Mission	.....	$365
Central	.....	1,037
Front Street, Mission and Ocean	.....	1,094
Market Street	336	.....
Potrero and Bay View	230	.....

The receipts of the San Francisco and San José Railroad were $49,823 in May; $51,425 in June; $52,502 in July, $52,663 in August; $53,148 in September, and $49,424 in October. The Mission Bridge Co. report receipts for August to be $1,201; for September $1,058, and for October $1,000.

Mining Share Market.

The market for mining shares during the past week has been characterized by increased activity, as well as by a rise of most shares constituting the general list at the Board. Advantage seems to have been taken of this by many who hold stocks which now rule at a low figure, and a considerable amount of this class, more than usual of late, changed hands. This activity, we think, will continue for some time.

The all-absorbing mining subject, at present, is the rich discoveries in the White Pine district, in reference to which we clip the following from a correspondent of the *Alta:*

"The most celebrated mine of all is the Eberhardt. So rich is this mine that its name has become almost synonymous with that of the cave entered by Aladdin. The location was made in December, 1867, and covers eight hundred feet, north and south. The present owners are Capt. Frank Drake, E. R. Sproule, Lavern Barris, J. W. Crawford and Edward Applegate. At a depth of twenty or thirty feet from the surface drifts have been run in several directions through solid masses of chlorides, bromides, sulphides and ruby and horn silver for twenty to fifty feet, and the end is not yet reached. The entrance to the tunnel has been closed, and admission to the mine can now only be gained by descending the vertical shaft in the company's building. Descending the shaft on a rope, we found ourselves among men engaged in breaking down silver by the ton. The light of our candles disclosed great black sparkling masses of silver on every side. The walls were silver, the roof over our heads silver, the very dust which filled our lungs and covered our boots and clothing was a gray coating of fine silver. We are told that in this chamber a million dollars worth of silver lies exposed to the eye, and our observation confirms the statement. How much may be back of it Heaven only knows. Astounded, bewildered and confounded, we picked up a handful of the precious metal and returned to the light of day. But for the bars of solid silver since shown us, we should be inclined to doubt the evidence of our senses, and look upon the whole scene in the chambers of the Eberhardt mine as the work of a disordered fancy, the baseless fabric of a vision. We had seen enough of the mines on this wonderful lode or line of deposits, and did not care to go on lower down the hill to examine the Silver Glance and other less noted mines. In the ore shed of the Oasis Mill, at Silver Springs, owned and run by the Eberhardt Company, we found 200 tons of Eberhardt second-class rock—the first class is so pure that it will not crush and is selected and laid aside to be melted down—and long trains of pack mules were arriving with more as fast as possible. The company will lay in as large a store of ore as possible before the snows fall heavily, in order to continue work all winter. One hundred and fifty tons of this second-class ore, worked at the Newark Mill, yielded $1,500 per ton, and it is supposed what is now being placed in the storehouses will yield as well. When General Page put up this mill at this point he had a contract to work the ores of the Eberhardt at $80 per ton until next spring. The proprietors found that he had a fortune in the contract, and bought the mill, which cost him $30,000, for $75,000. It has now run thirty-two days without stopping, and is rolling out the solid bullion daily. From a chimney in the Eberhardt ground $85,000 dollars worth of silver was taken in a few days, and the party taking it out then compromised with the Company, being allowed to hold all he had taken out and release to the Eberbardt Company the ground in dispute. This silver is now piled up in a cabin at Treasure Hill. The proprietors have $50,000 worth of similar specimens piled up in another place. One of the owners of the Eberhardt, but recently a poor man, values his interest at $1,000,000, and, we presume, the others would refuse to sell for less money."

Imperial—advanced from $100 to $112 50, and at the close realized $111. The sum of $3,086 has been added to the November bullion account since our last issue, making $22,054. On the 25th inst., the Imperial-Empire shaft was 1068 feet in depth. The drift east on the 900 level, near the north line, is in hard rock, and they are now within about twenty-five feet of the clay wall. On the 750 level they are near the clay wall, running in harren quarlz and porphyry.

Kentuck—improved from $232 50 to $250, then sold at $240, and closed at $245. The receipts of bullion for November account, to the 23d, foot up $28,429 43. The annual meeting of this company was held on the 25th instant. From the Secretary's concise report we glean the following:

RECEIPTS.

Cash on hand Nov. 21st, 1867	$20,365 03
Bullion	1,255,185 54
Premium on bullion	4,232 45
	$1,280,083 02

DISBURSEMENTS.

Dividends, No. 15 to 26	$450,000 00
Crushing Ores	448,323 60
Labor	161,293 62
Timber	54,738 55
Wood	12,114 05
Mine Expenses and Supplies	25,194 45
Assays	12,970 75
Hoisting Ores	11,544 46
Other Expenses	34,122 33
Cash on hand, Nov. 21st, 1868	63,862 21
	$1,280,083 02

From November 1, 1867, to November 1, 1868, 31,390½ tons of ore were reduced, showing an average yield of $40 06 per ton. The average cost per ton was $23 65, showing a net yield of $16 41.

Crown Point—was also sold at improved rates, selling within a range of $41 75@52 50, then at $47, and closing at $47. On the 22d instant, the stopes in the 850 level were looking tolerably well. Their average width will not exceed five feet. Near the south winze the ore body is said to be seven feet wide, but becomes much narrower in going north. They are sinking the shaft at the rate of a foot a day.

Gould & Curry—is in better request, rising from $85 to $120, falling to $104, and at the close selling at $100. On the 23d inst., they found a narrow seam of ore in the main shaft, assays of which show $3 30@6 30 per ton. The deposit lies due north and south, with a dip of 55 to 60 degrees. On the 25th, the seam was found to be forty-two inches in width.

Yellow Jacket—exhibits a very marked advance, rising from $1,165 on the 23d inst. to $1,560 on the morning of the 27th, and closing in the afternoon at $1,550. The *Safeguard* of the 21st, has the following in regard to this mine: "The winze intended to connect the 800 with the 900 level is now down 80 feet, and is reported to be in good ore, as is also the east drift on the 900, which reports have caused a general rise in stocks, being assisted by the now almost universal belief that a rise is inevitable. This company will hereafter pay regular quarterly dividends of $300 per share."

Savage—has not been as active as last week, selling at $68 50@72 50, receding to $69, and closing at $67 25....

Alpha improved from $40 to $48 50, and closed at $49. On the 20th inst., the raise from the 940 level was reported to look well. In the face of the east drift, 108 feet from the incline, have good "pay;" however, it is hard to extract, the "ore being in cemented quartz."

Chollar-Potosi—sold at $141@158, closing at $159. For the week ending November 20th, 1,200 tons of ore were extracted. On the 25th, assay certificates of hars to the value of $21,880, were sent forward to the office in this city....Overman advanced from $45 50 to $54, and closed at $50. The receipts of bullion by this company for the present month, from the 2d to the 24th, amounted to $38,594 54....Ophir sold at $23@32 50, and closed at $28. The shaft is now 544 feet in depth. Work had been temporarily stopped in order to lower the pump, but operations were again resumed on the 27th....It is thought that the second run of the Amador ore will yield $22,000.

The Steam-Decomposing Roasting Furnace.—From Mr. Stowe, proprietor of the Hagan cupola steam-decomposing furnace for roasting pyrites, we learn that another of these furnaces is at present being built in Calaveras County. The one near Cisco is waiting for a fresh supply of ores.

Christmas is coming, and the young folk should not forget the manifold attractions at Woodward's Gardens. They never were better. Now is the time to enjoy the beauties of nature at this famous retreat. *

He that hath ears to hear let him hear; but he that hath eyes to see and cannot see, let him use Muller's celebrated spectacles, 205 Montgomery street. *

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

Name, Location, Amount, and Date of Assessment.	Day Delinquent.	Day of Sale
Amador Co., dividend, $5 per share	Payable Nov. 20, 1868	
Alamo, Lyon co., Nev., Nov. 25, 35c	Dec. 31	Jan. 30*
Bullion, Aug. 19, $10	Payable immediately	
Bacon, Storey co., Nev., div	Payable June 19, 1868	
Belcher, Storey co., Nev., Oct. 6, $25	Nov. 6	Dec. 8
Chiplocnea, Mexico, Nov. 6, $2.50	Dec. 11	Dec. 28*
Cherokee Flat, Butte co., Oct. 20, $5	Nov. 23	Dec 9
Cordillera, Mex., Oct. 15, $1	Nov. 18	Dec. 7*
Chollar Potosi, div., $25	Payable Oct. 15, 1867	
Crown Point, dividend, $7.50	Payable Sept. 12 1868	
Colorado, Arizona	Annual Meeting Dec. 28*	
Diamond cop., Del Norte co., Oct. 28, $2	Nov. 10	Dec 28*
Folsom St & Ft. R. R., Nov. 13, $5	Dec. 15	Dec 26
Fogus, Amador co	Annual Meeting Nov. 2*	
Fogus, Amador co., Oct. 23, $2.50	Nov. 24	Dec. 12*
Eureka, div. $5	Payable Nov. 20, 1868	
Empire M. & M., Nev., dividend $6	Payable May 15, 1867	
Gould & Curry, div., $7.50	Payable May 15, 1867	
Gold Hill Q M & M—dividend, $7 50	Payable July 13, 1868	
Golden Rule, Tuolumne co., div. 50c sh	Payable Aug. 23*	
Great Central, Arizona, Oct. 9, $2.50	Nov. 11	Dec. 30*
Gold Hill Tun., Storey co., Nev. Oct. 9, $2	Nov. 18	Dec. 9*
Glouwood Mill, El Dorado co., Oct. 10, $50	Nov. 20	Dec. 9*
Hale & Norcross, div. $125	Sept. 16, 1867	
Hale & Norcross, Virginia, Oct. 12, $10	Nov. 14	Dec. 5
Hope Gravel, Nevada co, Nov 18, $1	Dec. 22	Jan. 11*
Imperial, Storey co., Nev., div	Payable June 20, 1868	
Julia, Storey co., Nev., Oct. 22, $1.50	Nov. 25	Dec. 14
Kentuck, div., $20 per share	Payable Nov. 10, 1868	
Maxwell, Amador co., Nov. 13, $2.50	Dec. 14	Jan. 5
North Star, dividend, $5	Payable Aug. 15, 1868	
Nevada County M. Co., $1	Nov. 18	Dec. 19*
Overman, Storey co., Nov. 13, $20	Dec. 16	Jan. 4
Ophir, Storey co., Nev., Nov. 9, $3	Dec. 12	Jan. 2
Oriental, Sierra co., Nov. 9, $2	Dec. 14	Dec. 30
Pacific Unassessable, div	Payable June 18, 1868	
Quail Hill, Calaveras co	Annual Meeting Nov. 28	
Rattlesnake, Yuba co., Oct. 13, $2	Nov. 18	Dec. 7*
Rippon, Alpine co., Oct. 15, $1	Nov. 23	Dec. 17*
S. F. & Castle Dome, Arizona, Nov. 25, 3c	Dec. 28	Jan. 12*
Santiago, Silver City, dividend, $2	Payable Nov. 20, 1868	
Senator, Storey co., Nev., Nov. 2, 50c	Dec. 4	Dec. 24*
Savage, Virginia, Nev. dividend, $5	Payable Oct. 10, 1868	
Sand Spring Salt, dividend $1	Payable June 5, 1868	
U. S. Grant, Nevada co., Nov. 9, 50c	Dec. 15	Jan. 2*
Virginia & O. H Water Co.	Dividend, payable Nov. 20, 1868	
Yellow Jacket, div., $300	Payable Nov. 10, 1868	

Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. Stock and Exchange Board.

Friday Evening, Nov. 27, 1868.

Miscellaneous Stocks.	Bid.	Asked.
United States Bonds, 5 20s	$ 80	81
Legal Tender Notes	73	73½
California State Bonds, 7s, 1857	95	95
San Francisco Bonds, 10s, 1851	par & int.	
San Francisco City Bonds, 6s, 1855	—	—
San Francisco School Bonds, 10s, 1860	100	—
San Francisco School Bonds, 10s, 1861	par & int.	
San Francisco City and County Bonds, 6s, 1858	85½	—
San Francisco City and Co. Sch'l Bds, 7s, 1866	90	—
San Francisco City and Co. Bonds, 7s, 1862	90	91
San Francisco City and Co. Bonds, 7s, 1864	90	—
San Francisco City and Co. Bonds, 7s, 1865	90	—
San Francisco City and Co. Judg. Bds. 7s, 1865	90	—
San Francisco City and Co. Judg. Bds, 7s, 1864	90	—
Sacramento City Bonds	23	25
Sacramento County Bonds, 6s	70	73
Marysville Bonds, 10s	75	80
Stockton City Bonds	69	70
Yuba County Bonds, 8s	77	78
Santa Clara County Bonds, 7s	75	77
Butte County Bonds, 10s, 1860	70	75
San Mateo County Bonds, 7s	75	80
California Steam Navigation Co	51	52½
Spring Valley Water Co	65	65½
State Telegraph Co	20	—
Gas Companies.		
San Francisco Gas Co	73¾	—
Sacramento Gas Co	—	75
Railroads.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	79	—
Central Railroad	83	83
North Beach and Mission Railroad	65	68
Front Street, Mission and Ocean Railroad	11	12
Banking Institutions.		
California, Loan and Savings Society	—	—
Pacific Bank	97½	100
The Bank of California	157	158
Insurance Companies.		
Firemans' Fund Insurance Co	92½	94
Pacific Insurance Co	124	125
San Francisco Insurance Co	—	105
Merchants' Mutual Marine Insurance Co	500	525
California Insurance Co	1300	1100
Union Insurance Co	92	93
California Home Insurance Co	—	—
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	72	—
National Insurance Co	72	—
Builders' Insurance Co	—	—
Mining Stocks—Washoe District.		
Alpha	40	50
Baltimore American	—	—
Belcher	150	—
Bullion, G. H	16	15¾
Crown Point	46	47
Confidence	37	—
Chollar-Potosi	157	158
Daney	6¾	6
Exchequer	24	27
Empire Mill and Mining Co	110	112
Gould & Curry	100	—
Gold Hill Quartz	55	60
Hale & Norcross	68	68¾
Imperial	110	112
Kentuck	242	245
Lady Bryan	18	20
Ophir	27	28
Overman	50	51
Savage	67	67½
Sierra Nevada	12	25
Yellow Jacket	1540	1550
Golden Rule, California	5	—

San Francisco Market Rates.

Wholesale Prices.

Friday, Nov. 27, 1868.

Flour, Extra, ₱ bbl	$5 50	@	$6 00
Do. Superfine	4 75	@	5 00
Corn Meal, ₱ 100 lbs	3 25	@	3 50
Wheat, ₱ 100 lbs	1 50	@	1 85
Oats, ₱ 100 lbs	1 75	@	2 00
Barley, ₱ 100 lbs	2 05	@	2 25
Beans, ₱ 100 lbs	3 00	@	4 00
Potatoes, ₱ 100 lbs	75	@	1 00
Hay, ₱ ton	10 00	@	16 00
Live Oak Wood, ₱ cord	9 00	@	10 00
Beef, extra, dressed, ₱ lb	8	@	10
Sheep, on foot	3 00	@	3 25
Hogs, on foot, ₱ lb	4½	@	5
Hogs, dressed, ₱ lb	8	@	—
Groceries, etc.			
Sugar, crushed, ₱ lb	—	@	15¾
Do. China	9	@	10
Coffee, Costa Rica, ₱ lb	16¾	@	16¾
Do. Rio	—	@	16¾
Tea, Japan, ₱ lb	75	@	90
Do. Green	85	@	1 25
Hawaiian Rice, ₱ lb	9	@	10
China Rice, ₱ lb	5	@	7
Coal Oil, ₱ gallon	40	@	47½
Candles, ₱ lb	15	@	18
Ranch Butter, ₱ lb	15	@	15
Isthmus Butter, ₱ lb	30	@	42½
Cheese, California, ₱ lb	15	@	20
Eggs, ₱ dozen	70	@	—
Lard, ₱ lb	13	@	14
Ham and Bacon, ₱ lb	14	@	18
Shoulders, ₱ lb	6	@	8
Retail Prices.			
Butter, California, fresh, ₱ lb	80	@	90
do. pickled, ₱ lb	30	@	40
do. Oregon, ₱ lb	20	@	25
do. New York, ₱ lb	35	@	45
Cheese, ₱ lb	20	@	25
Honey, ₱ lb	25	@	30
Eggs, ₱ dozen	90	@	1 00
Lard, ₱ lb	15	@	17
Hams and Bacon, ₱ lb	23	@	28
Cranberries, ₱ gallon	85	@	1 00
Potatoes, ₱ lb	1½	@	2
Potatoes, Sweet, ₱ lb	3	@	—
Tomatoes, ₱ lb	3	@	—
Onions, ₱ lb	3	@	—
Apples, No. 1, ₱ lb	4	@	5
Pears, Table, ₱ lb	5	@	7
Plums, dried, ₱ lb	11	@	13
Peaches, dried, ₱ lb	—	@	—
Oranges, ₱ dozen	75	@	1 00
Lemons, ₱ dozen	1 00	@	1 50
Chickens, apiece	50	@	75
Turkeys, ₱ lb	20	@	25
Soap, Pale and C. O	7	@	12
Soap, Castile, ₱ lb	18	@	20

New York Metal Market.

[Corrected weekly from the American Artisan.]

New York City, Oct. 24, 1868.

Iron.

Pig, Scotch, No. 1 (cash) ₱ ton	$39 00	@	$44 00
do. American, No. 1 (cash)	37 00	@	38 00
do. do. No. 2	33 00	@	36 00
Swedish, ordinary sizes	155 00	@	165 00
Common	90 00	@	95 00
Refined	95 00	@	115 00
Rods	100 00	@	120 00
Horse-shoe	125 00	@	— —
Hoop	130 00	@	190 00
Scroll	130 00	@	175 00
Nail-rods, ₱ lb	—	9½@	— 10
Spring	—	9	— —
Tire	—	10¾@	— —

Steel.

Bars, best cast, warranted, ₱ lb	—	25 @	— —
Sheet, do	—	23 @	— —
do. second quality	—	20 @	— —
do. third quality	—	17 @	— —
Saw-plates, circular	—	30 @	— —
Double-shear, warranted	—	23 @	— —
Single do	—	20 @	— —
Montague & Co. (cast bars)	—	19 @	— —
Machinery, round	—	15 @	— —
German, best	—	17½@	— —
do. goat	—	11½@	— —
do. eagle	—	13 @	— —
Slisier, warranted	—	17 @	— —
do. common	—	13 @	— —
Jessop & Sons', common	—	17 @	— —
Double refined	—	26½@	— —
Stone-axe shapes	—	26½@	— —

Symptoms of Character.—Dr. Stone's lecture on this subject before the Young Men's Christian Association, last Tuesday evening, was of general interest throughout. He spoke of the outcroppings of character through the lines of the face, the topography of the head, the dress, ornaments, and personal behavior of people—which are intuitively noticed and acted upon by children as well as adults. The new hall, which is a very comfortable audience room, was nearly filled. We congratulate the Association upon inaugurating the first successful course of lectures in this city. The price of admission is only 25 cents, or $1.25 for the course of twelve lectures.

Explosion in Casting.—At the Miner's Foundry last week the entire force of the casting department was employed at a casting for a portion of one of the State Capitol columns, weighing about twelve tons. Everything progressed successfully till the charge of molten metal had been drawn from the furnace into the mold, when from some cause, there was a sudden explosion, and melted iron, sand and dust were thrown in every direction. The foundry was instantly set on fire. An alarm was struck, but the firemen reached the place in time to extinguish the flames and prevent serious damage.

Personal.—A de Vial and Alexis Janin, recently students at Freiberg, Saxony, arrived here a few days ago. The former leaves to-day for Guaymas, Sonora; the latter goes to Virginia City.

The Rev. A. F. White, State Geologist of Nevada, is examining the mines at White Pine.

L. G. Lewis, owner in a dozen important mines in southern Idaho, is in town, on his way to the East.

Dr. Livingstone, the African explorer, is expected in England before Christmas.

E. B. Dorsey, M. E., has returned from a European tour of several years.

Removal.—Nelson & Doble, the agents for Thos. Firth' & Sons' renowned Sheffield steel manufactory establishment have left their former quarters on Pine street, and located themselves more advantageously at No. 15 Fremont street, near Market.

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County.

Markleeville *Miner*, Nov. 14th: As near as we can learn, the treatment of the IXL ore at the Pittsburgh mill is not producing results creditable to the mine or mill. It is thought less than half the value of the ore is obtained.

One of the directors of the Morning Star mine, the ore which is being worked at the Pioneer mill, assures us that there will not be less than three tons of bullion from the seven tons of first-class ore already worked. When it is remembered that the ore assays 30 to 50 per cent. copper, and $200 to $400 in gold and silver, the above appears reasonable. The tunnel, at 1,000 feet from its mouth, and 250 beneath the croppings, struck a large volume of water, went through several feet of clay gouge and into a fine chimney of ore, from which was taken a large quantity of the peculiar black ore now known as first class, and more of a yellow pyrites containing some copper and gold, but not of much value. The black ore assays $200 to $400 in silver and gold, and $100 in copper to the ton. Another level 100 feet below that of the tunnel was reached last winter; the black ore was found the same, except more disintegrated, but still the class, not clearly black, or No. 1, is largely in excess. We find now that almost every lump of the class hauled as No. 2, exhibits in breaking considerable gray, and not a little of the rich black ore; that a new substance, different from any found above, which cleaves easily, contains considerable crystallized quartz, and an ore which seems fine, rather on the silver sulphuret order. The gray metal which is coming in largely with the pyrites, seems to be identical with samples found in the Wild Yankee and American, on the same range.

Chronicle, Nov. 14th: Work is being prosecuted with energy on the Scottish chief. The tunnel is now in 212 feet, and has cut several strata of fine looking quartz.

Amador County.

Jackson *Ledger*, Nov. 21st: The Oneida, Kennedy and Coney & Bigelow are all running, and crushing rock to their utmost capacity. The returns from these mills for the past month have been highly favorable.

Work is being pushed on the Summit mine.

The Kennedy Quartz Mining Co. have deposited in the show case of P. Reichling, a beautiful specimen of their quartz. It will go $10,000 to the ton, and had it been found at White Pine, or any other bleak, cold, distant part of the Pacific coast, an intense excitement would have been the inevitable consequence.

Calaveras County.

Mokelumne Hill *Chronicle*, Nov. 21st: Operations in gravel mining are being pushed forward vigorously in this vicinity. In Chili Gulch, Brackett & Co. have nearly completed the prospecting tunnel which they have been for some time running, and will soon be taking out the precious metal again.

Mr. Shaw, the "Guy" claim man, is washing away Stockton ridge as fast as a huge hydraulic will permit.

Mattbews & Co. are "pushing things" night and day, with very flattering success. As the result of 48 hour's run, they cleaned up $250.

Paul & Co. have one of the most extensive gravel mining claims in the county, and are employing a large number of hands. They are now reaping a liberal reward for heir energy and perseverance.

The Golden Gate Co. having completed their new mill, are now crushing very rich gravel. Their claim is thoroughly prospected, developing an immense body of pay dirt.

Quartz mining is progressing as favorably as one could wish. The claims are all so well protected from the weather that the commencement of the rainy season will not interfere with the steady prosecution of labor.

The Collinsville correspondent writes: Work on the Monitor and Merrimac has been suspended for a time, on account of the insufficiency of the machinery; but will be resumed again as soon as the companies can make arrangements for the necessary machinery, which they expect to do in a short time.

At Central Hill there are several claims being worked, all paying fair wages. I think that the mines are doing about as well here as any place I have been.

The Lower Rich Gulch correspondent writes: The Palomo has become a paying institution. In the north or whim shaft, now 100 feet deep, they have the whole ledge in sight. It is seven feet in width, and prospects better than any ore previously taken from this mine. In the south shaft, levels are being run by contract, north and south. Where this shaft was sunk there was a break in the ledge; in the north level it is coming in, and is now about four feet wide. The south level is just commenced, and without doubt a very large body of ore will be found within 30 feet of the shaft. From the center shaft, levels are being run either way to each of the other shafts, for the purpose of a thorough ventilation of the mine.

Alexander & Co. now have a ledge over 18 feet wide, evidently rich, both in sulphurets and free gold, and easily mined.

Mariposa County.

Gazette, Nov. 20th: The editor who has been visiting the mines in Buchanan Hollow, gives us the following items: The main features of the place are its rich and extensive copper mines which are now being worked by Vilas & Co. Their main shaft is down 230 feet, with a tunnel running south about 100 ft.; another known as the South shaft, is down over 80 ft., in which a vein of ore nine ft. in width has been struck. The ore is mostly sulphurets, yielding 24 to 25 per cent. of metal. Hoisting works are being erected at this shaft, which will be in operation in a few days. From 15 to 20 tons of ore are now taken out daily, and from 25 to 50 tons are the weekly shipments at present. They are running another tunnel which is now in 210 ft., with most promising indications. It is the intention of the company to haul their ore some 25 miles to a point on the San Joaquin river accessible to steamboats. The furnace of the establishment is not yet in operation, but will be in readiness by next Monday. About 90 tons of roasted ore are now at the furnace and a pit of 80 tons nearly roasted, and another under headway to contain 130 tons of which they intend to make matte. The furnace is estimated to run through about 20 tons of matte per day.

Nevada County.

Transcript, Nov. 18th: The Little York Water and Mining Co. have purchased the interest of J. E. Squire in the concern, and also the mill and mining property formerly owned by Curran & Buckman. The new company paid $11,500 for the Curran & Buckman property. They have been exceedingly successful since they commenced operations, and are preparing for extensive work during the approaching season. They are getting four sets of hydraulic claims in condition for work.

The Central Mining Co. have located 1,100 ft. on the Black Jack quartz ledge, situated near the Coe mine. The claim of the company includes 100 ft. on each side of the ledge for mining purposes.

The Perspiration Co. have located 700 ft. near the Snow Ditch.

Ira Bean and others have located 700 ft. on Pan ravine, for gravel mines.

Nov. 19th: The Erie Co., on the Jim Crack ledge, is located at South Fork, three miles from Eureka. Two shafts have been sunk, one 100 and the other 83 ft. in depth. They are now running a tunnel to connect the two shafts. The ledge is from five to eight ft. wide and the rock of excellent quality. The mill has two 5-stamp batteries and is run by a 50-horse engine. After a run of 36 hours the battery was heavily coated with amalgam. The rock heretofore worked has averaged $20 to the ton, and that upon which they are now running shows better than ever. The mine is being thoroughly opened for permanent work.

A great deal of prospecting is being done in the vicinity of Eureka, and the miners are greatly encouraged. Many of the mines give promise of great richness. Black & Young's mill is kept in operation night and day. Palmer & Everingham's mill is also running and the Commercial mill. At Eureka and South Fork seven or eight mills are kept running.

The North Bloomfield Gravel Mining Co. are pushing work upon the ditch. They have in the vicinity of Eureka a company of 200 Chinese and are working all along the line.

Nov. 20th: The Norridgewalk mine is to be worked again. The shaft will be cleared, the rock at the mill crushed, and if the result is sufficiently encouraging work will be continued.

Nov. 21st: The coming season, with favorable weather, will be one of extensive hydraulic mining. Many of the claim owners are already prepared for work, and are only waiting for water. Others are actively engaged in preparations and will be ready to take advantage of the first supply. During the past two or three years a large quantity of ground has been located in the county, and some of these claims will be worked this season. In various localities claims have been sold to companies having abundance of capital to fit them up and work to the best advantage. This class of claims will begin to yield this season. There is every indication that the winter and spring will be most prosperous for hydraulic miners.

Grass Valley *Union*, Nov. 19th: Frank Morse who is working the Hitchens & Larimer ledge under a lease, has come across some of the best rock ever taken out in Grass Valley. A gentleman who has been connected with quartz mills since Grass Valley had a mill, informs us that he never saw such rock.

Nov. 20th: The Scandinavian mine, in Rough and Ready township, will, it is supposed, be again worked soon.

Nov. 21st: The rock coming out of the Empire mine yesterday and the day before, is exceedingly rich, in fact it is regular specimen rock which will run up into the thousands per ton.

Nov. 22d: Wm. Bovee, who resides in this place, has struck a new quartz ledge, which gives promise of being valuable. Some years ago a Frenchman struck this ledge which is near the corporation line, on the Nevada road, but it looked so white and unfavorable that work on it was abandoned. Bovee run in a tunnel lately, to find this ledge, but run above it. Discovering this he sunk a shaft for it, and a few days since, struck a two feet thick ledge which shows free gold, with galena and sulphurets in profusion.

Grass Valley *Nation l*, Nov. 21st: Russell & Co. are now engaged in sinking a shaft under contract on the Aspinwall ledge. The contractors are now down 107 feet on the ledge, which is over three feet thick in the bottom of the shaft. The ledge runs northwest and southeast and has been traced over a thousand feet from the shaft, where it is found to be 18 inches thick. Some of the rock from this mine is now being crushed at the Gold Hill mill, and more than comes up to expectations.

A much better quality of rock is now being taken out of the west level, 200 ft. on the incline, in the Coe mine, than ever before, and as the sinking progresses we may expect to hear of still richer rock being taken out. The rock looks well—showing an abundance of rich, heavy sulphurets and free gold.

Transcript, Nov. 24th: Last year many of our miners had sufficient water to commence work by the end of the first week in November. This season is much later, and as yet none of the hydraulic miners have commenced operations.

The Providence Mining Co. have located 2,000 feet on the Grass Valley quartz ledge.

EXCELSIOR.—Truckee *Tribune*, Nov. 21st: The Mohawk and Montreal Co. are running their mill night and day with flattering results. They have enough good ore in sight to keep the mill running all winter steadily. The company are now working about forty men. The Independence Co. are engaged in getting out 100 tons of rock, which they will have worked at the Mohawk mill. The U. S. Grant Co. have four men employed in drifting on their ledge. The ore now being taken out is said to be of a good quality. The Kentucky is now idle, and the Enterprise Co. have closed for the winter, on account of the difficulty of getting ore to the mill. Connell & Co. are engaged in getting out a large quantity of ore which they will have worked at the California mill. The last crushing from their mill paid splendidly.

Placer County.

Auburn *Herald*, Nov. 21st: The new Pioneer Quartz Mill, on the Mammoth Ledge, on Dry Creek, is now running, but has not made a clean-up.

The new 20-stamp mill, now being erected on the Green Emigrant, on Bald Hill, will be completed and running in about three weeks.

Plumas County.

Quincy *National*, Nov. 12th: We hear it rumored that a nugget valued at $500 was taken from a claim on Blackhawk a few days since.

Turner, Reynolds, Rice & Co., whose claims are located on Blackhawk, have diggings which are rich enough for any moderate men, and they have ground enough to last them for years. They made some large clean ups while piping off top dirt, during the spring and early part of the summer, and since they commenced cleaning bed rock, they have averaged about 60 ounces per week. They have a fine water privilege, and everything bids fair that the claim will pay as well for years to come as it has the past season.

The North Fork correspondent writes: McBeth is working his mining claim, on Marion Flat, with good success. Boston & Balliett are getting excellent pay at Bamboo Bar. There is very little mining being done in the river above the cañon this year. On Dutch Hill the boys are working away about as usual. The Dutch Hill Co. are working in their tunnel, taking out good wages. Ferguson & Wagoner are running a bedrock tunnel into their deep ground, where they expect big pay. Mechlin is running day and night, on good prospects. At Red Rock the miners have been fitting up their claims, and are about ready for the spring run of water. They have good ground, and all they want is plenty of water to make it pay well.

The Taylorville correspondent says that work will be carried on this winter on the Enterprise lode.

Sierra County.

Downieville *Messenger*, Nov. 21st: The Fir Cap gravel mining company struck through into pay gravel on Sunday last.

Contracts have been made which will insure the completion of the Garden Valley quartz mill this winter, so as to be put in working order in the spring.

Siskiyou County.

Yreka *Union*, Nov. 21st: Some two months since we spoke of a quartz ledge on the north Fork of Humbug, which Lash and Weston had just then discovered. The ledge is in the steep hills on the south side of the North Fork, nearly opposite the site of old Freetown. Since that time about 50 tons of quartz have been taken from the ledge and crushed, yielding $25 to the ton. An open cut has been made on the ledge where it crops out, extending along it about 15 feet, and going down on it to a depth of 10 or 12 feet. It is about 20 inches in thickness, and is easily worked. This, taking into account both the thickness of the ledge and the quality of the rock, may justly be regarded as the most promising quartz prospect yet struck in this section. They have christened it the Accidental.

Tuolumne County.

Sonora *Democrat*, Nov. 21st: A piece of gold worth $130 was found on Tuesday by Henry Eckel, of Springfield. He found it in the lot upon which stood Wedel's old brewery, adjoining Hurley's Saloon, which he is now mining.

A gentleman from 1st Garrote informs us that the Burns mine is being worked and the mill kept running day and night. Also, that the mine is paying well.

COLORADO.

From the Central City *Register*, Oct. 29th: The Hicks lode has a crevice between walls five ft. in width, with quite a promising vein of pay ore. The discovery shaft is only about 13 ft. deep, but quite a quantity of ore has been taken out for that depth. At the time of our visit six sacks of good looking ore were lying at the shaft, apparently waiting transportation to a mill. Beside these, there was half a ton or more of selected ore lying in a pile at the shaft. Near this lode Jacob Snyder has several lodes that he is working, the ore from one of which has run $124 coin at Huepeden & Wolter's mill....S. Robeson showed us this morning some very rich samples of ore from the Ruby lode. One specimen contained native silver in considerable quantity, and all the samples showed ruby silver and black sulphide thickly blotched through the whole rock. Mr. R. reports all the lodes yet discovered there as being very wide and the ores quite rich—black sulphides and ruby silver being the prevailing ores.

Denver *News*, Oct. 30th: The Clear Creek correspondent writes: Nevada City is surpassing her glory of '60. Ten large quartz mills make music throughout the gulch from Monday morning to Saturday night. Taking Gilpin County throughout, things were never so prosperous or times so encouraging as now. They estimate 40 mills in operation, with a capacity of 800 stamps, crushing between 3,000 and 4,000 tons of quartz every week, with good results.

There are no mills running at present in Russell Gulch. Mr. Reed expects to have the Ford mill running soon on ore from the Delaware lode. The only mill running in Leavenworth Gulch is the Leavenworth, which is crushing ore from the Alps mine, with 12 stamps. Mr. Mitchell is also running 32 stamps on ores from the Illinois lode on Quartz Hill.

IDAHO.

World, Nov. 14th: A gentleman just in from the new diggings on Salmon river, says: There were about 40 miners at work in the new camp, and it has been organized under the title of Salmon district, No. 2. It is about 20 miles below the old Salmon diggings, on the banks of the river, and the claims will pay very good wages.

Owyhee *Avalanche*, Nov. 14th: The Rising Star mill is rapidly nearing completion. Louis Alpey has made a rich discovery on the mountain above Slaughter House Gulch, he has christened it the Minnehaha. The ledge is from 18 inches to four feet in

width, the ore bears a striking resemblance to that of the Poorman, and pans out marvelously rich.

The Boise *Democrat* says that two miners are making from $5 to $8 per day with a rocker in a claim on Boise river, about 10 miles above that city.

MONTANA.

Helena *Post*, Nov. 6th: W. D. Wann is taking out a large quantity of very rich ore from the Watseka lode in Rochester district. He expects to commence operations this week. The Hendrie mill has never failed of a good run from this ore, since it commenced operations last summer.

The furnace of Tootle, Leach & Co. at Argenta is at last in full blast, and with the most flattering prospects. It is smelting ore from the Tuscarora and Stapleton lodes, of which the Stapleton is in every respect one of a superior character. The rock is being got out rapidly, and enough is in sight to run on all winter.

We learn that Brown's Gulch, one of the most promising quartz districts in Montana, is now the scene of busy development. Some 50 men are at present engaged on three of the leads, developingand crushing with arastras, with gratifying results.

We have also learned that Lincoln Gulch never appeared to better advantage than it does at the present time. The claims are all paying wages, and from Mr. Allen's sluices, in one week, we are informed, $1,000 was cleaned up. Quite a number of claims are paying splendidly, and all average quite well.

The Virginia *Democrat* says: The Clark Mining Co. have stopped work for a season, the water having given out....The furnace of the Great Western Mining Co. will be ready to start in a few days on quartz belonging to the company....Strong hopes are generally entertained that Mill Creek will be one of the most extensive districts of the Territory.....Messrs. Sissier, from a battery of three stamps, in three days' run, cleaned up $500 worth of retort.

The Deer Lodge *Independent* says: We were shown some specimens of quartz by Mr. Harvey, from the Myer's lode, which is making more than wages crushing the rock in arastras; one day it yielded $126. ....Lincoln Gulch continues to improve, new diggings have been discovered, as high as $3 to the pan was taken out of one claim. ....There are four mills running in Deer Lodge County, which are producing in the aggregate over $100,000 per month....The Hershfield mill, after running five days on the Thomas lode, cleaned up nearly $4,500. Take it all in all this country never was in a better condition.

NEVADA.

Esmeralda.

Virginia *Enterprise*, Nov. 17th: Wells, Fargo & Co. yesterday morning shipped from their office in this city, two gold bars from the Wheeler & Wilson mine, Pine Grove, worth the snug sum of $19,754.13.

Humboldt.

Winnemucca *Argent*, Nov. 21st: In the Pride of the Mountain ledge, in Winnemucca Mountain, it is quite common to find horn silver. Several tunnels of lengths varying from 25 to 70 ft. have been run in on the vein, and an incline of 110 ft. is sunk on it. Incline and tunnels all show a well-defined vein of from ten inches to two and one-half feet, and a continuous streak averaging about one foot of a black mineral, through all of which is distributed horn silver.

The vein is found for over 2,000 ft. Two tunnels are now being driven. Stoping has commenced in the upper one, and it would be difficult to find richer ore than comes out.

Reese River.

Austin *Reveille*, Nov. 13th: In spite of the lateness of the season and the near approach of winter, with its snows and frosts, the travel to White Pine has assumed the appearance of an old-fashioned rush.

Some 3,500 ounces of bullion arrived in this city yesterday afternoon from Rigby's mill at San Antonio.

Nov. 16th: On Saturday 14 bars of bullion, of the average fineness of .992, and valued at $20,403.18, were brought into this city from the Centenary mill in the district of Newark. The bullion is the product of White Pine ore, and is the finest lot ever brought into this city.

Nov. 17th: Yesterday afternoon four bars of bullion, .975 fine, and valued at $5,273.60, were brought into this city from the Monte Cristo mill at White Pine.

Nov. 19th: The Virginia mine, situated near the town of Hamilton in White Pine, was sold to-day for $36,000 in coin.

Nov. 21st: The amount of bullion produced at the Manhattan mill for the week ending this date is 43,928 ounces.

Virginia *Enterprise*, Nov. 18th: A correspondent at White Pine writes as follows: The rich specimens that go abroad from here are from the Eberhardt and the mines in that vicinity. It is a fabulously rich mine. But little work has been done in it, and yet there are now in sight many millions worth of ore. I was through the mine to-day; saw it all; but it's no use for me to describe it to you, for I can't do it; and if I could it wouldn't do any good. Chloride Flat is on the western side of the mountain. The pay rock underneath it is covered by a layer of limestone, varying in thickness. Some fortunate prospector struck rich ore near its surface and near the center of the flat, and from that location holes radiate in all directions, with varying success. Some have it, and some have it not. On this flat there are at least 100 shafts. It looks to me as if there are about 500; but Steve says 100. Many of them are taking out rich rock, but not all of them are doing so, by any means. As I said before, the cap of limestone varies in thickness. All who have gone through it have reached pay ore; but all have not gone through it. Many have become discouraged and quit. The pay ore appears to run up in chimneys, and lucky is he who strikes one of these. Steve made two locations on this flat, in one of which he put us. He went to work on his claim, and in 15 feet struck good ore that will assay from $500 to $1,000 per ton here; but what it will assay and pay at the mill is a matter yet to be settled. The value of the ore obtained on Chloride Flat is somewhat exaggerated, but still it is very rich rock. I think the flat will yield a vast quantity of ore that will pay at the mill from $75 to $100 per ton; but when it is set away above that, choice rock is selected. Ned Hudson is working a claim on the flat, and two tons of selected ore which he sent to the mill and had worked, only paid him $225 per ton. It is very expensive getting at this ore through the limestone, and very expensive getting the ore out after getting at it. The limestone is very hard, and requires a great deal of blasting, and so it does to get the ore out after reaching it. On an average, it requires the labor of at least three men to obtain one ton of pay ore per day. Then it costs $50 per ton to get it crushed, and from $5 to $7 to have it hauled to the mill, to say nothing of the expenses of sacking, etc. This is the queerest region that any white man ever beheld. This whole hill, after going through the limestone, seems to be a body of silver-bearing quartz, and it seems to make but little difference where a man goes for it. He is about as liable to get it at one place as another.

Another correspondent writes under date of Nov. 12th: The further the work on the Eberhardt proceeds into the ledge, or chimney, the better grow the indications of this very rich ore. Few, if any, of the stockholders in this claim care to sell. They consider that they have a mint to back them. The Oasis mill, located at Shermantown, about one and a half miles from the mine, is crushing the ore. It is a 10-stamp mill, well arranged, running day and night. At the time of our visit, the mill had been running 22 days. As near as could be estimated, $80,000 had been taken out. In the office we counted 23 bars of bullion, averaging $1,500.50 each. Though greenbacks were at par, the moral effect of their equivalent in good hard cash is much greater. Alongside the mill lies 150 tons of ore, which turns out from $800 to $900 per ton. We are informed that ore has been selected from the same claim—the Eberhardt—which assayed as high as $18,000, and even $20,000 per ton. At all events, this mine bids fair to yield ore worth from $500 to $800 per ton for a long time to come.

The Keystone and Richmond, adjoining the Eberhardt, are also rich and valuable claims. The Anrora, as well as other mineral discoveries near Treasure City, upon what is termed Chloride Flat, are worthy of mention, though yet in their infancy. Treasure Hill abounds in prospect holes, and a number of mines have been opened and are being worked to some extent, which promise well and may yet prove rivals of older and more developed claims. Upon this Chloride Flat all precedents in regard to deposits of silver ore seem to be disearded. The ore is scattered in a haphazard manner, being found unexpectedly here and there, or, as miners term it, in pockets. Usually the ore is struck from five to ten feet below the surface, immediately under a cap-rock of limestone; yet in this locality the arrangement is very irregular, and one finds prospect holes going down in all directions, apparently after a most blind fashion. Prospecting is continually going on. Every day brings fresh reports of new discoveries and new ledges. The latest rumor tells us of rich gold-bearing quartz some 50 miles from this point. Doubtless much mining will be carried on during the coming winter, but the work will be small compared with the numbers flocking in who are without means, provisions or shelter. Next spring will be early enough for all who come to mine, prospect, or those without means who depend upon obtaining employment, capitalists, especially those intending to locate in this region next spring, for mercantile or mechanical businesses, are already well represented.

Nov. 21st: We were yesterday shown a small bar of bullion, weighing 2.54 ounces and worth $7.26, which was taken from a pound and three-quarters of White Pine ore. The ore was melted and the assay made by Conrad Wiegand, of this city, and shows that the ore smelted contains at the rate of over $5,000 per ton, and a ton of such bullion would contain over $50,000 in gold. Unfortunately it is not known to a certainty which of the several White Pine mines may contain this gold rock, as the lot melted up was the fragments from a number of specimens brought in from that section by a gentleman of this city. Mr. Wiegand says that he found about the same proportion of gold in another lot of White Pine ore which he smelted. The companies owning the rich mines on Treasure Hill have supposed their bullion to be purely silver.

At Kirk's drug store, South C street, is to be seen a huge specimen of White Pine ore received yesterday from White Pine. It weighs over 100 pounds, and is supposed to contain from $80 to $100 worth of silver. The express charges on the lump from White Pine to this place amounted to $28. The specimen was taken from a claim adjoining the famous Eberhardt mine.

Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Virginia *Enterprise*, Nov. 20th: Greely Brothers, of the Fulton Foundry, on the Divide, are constructing machinery for a new mill for Augustine, of Silver City. The new mill is to be erected at American Flat, and will be run upon a large bank of tailings lying below the old Bay State mill, on the Flat. No stamps will be required in the mill, and the machinery will consist mainly of four large amalgamating pans and the engine required to run them. They are also furnishing machinery for new hoisting works for the South Yellow Jacket's works, and have already delivered a portion of the same. That delivered consists principally of spur wheels, twelve of which, six large and six small ones, make up the bulk of the machinery.

Nov. 21st: The Summit mill is again in operation, crushing ore from the Sacramento mine, on Cedar Hill.

We are informed that the ore in the lower level of the Alpha mine is improving very considerably both in quantity and quality. The lower level of the Yellow Jacket mine is also looking exceedingly well.

There was shipped by the express from this city and Gold Hill during the past week, 6,102 pounds of assayed bullion, valued at $193,919.40.

A small streak of rich ore, some four or five inches in width, has been found in the 900-foot level of the Crown Point mine.

Gold Hill *News*, Nov. 16th: There was shipped from Wells, Fargo & Co's Gold Hill office this morning, six sacks of bullion, weighing 411 pounds, and of the value of $12,256.30.

NEW MEXICO.

Santa Fe *Gazette*, Oct. 31st: Within the last 12 months valuable discoveries have been made in the upper as well as in the lower portion of our Territory. Every known precious mineral is represented in our vast mountains. A rich gold discovery has been made by the "Arroyo Hondo Mining and Ditch Co." in the mountains close to Fernando de Thos. The specimens shown to us by Adolph Guttmann, of the above named company, are immensely rich, the gold can be distinguished with the naked eye, throughout the quartz, and we do not say too much, in pronouncing them the best looking gold specimens that ever came within our sight, from the mines of this country. We were told that the vein is from six to eight feet in width, and widening as they go down on the same. The quartz resembles very much the white California crystalline quartz and has until now prospected very well and improved every day in richness. The company is now engaged tunneling into the hill, and intends to bring out early in spring a 20-stamp mill. The immense and rich deposits of gold, silver and copper ores throughout our mountains, could in very little time be made to yield treasures to earnest and enterprising men.

OREGON.

The Jacksonville *Sentinel* says: Important discoveries of ores are being found in various localities of Coos and Curry counties. Quite an excitement is now agitating the people of these counties, in consequence of the discovery of a rich gold-bearing quartz ledge at Salmon Gulch, northeast of Port Oxford. A rival company, supposed to be in the interest of San Francisco capitalists, are pretending to claim the ledge as a spur from an unknown and imaginary one of theirs, which will probably lead to litigation. Some silver and copper ores have been found in various localities of Curry County, which will ultimately prove a fine field for the miner and the mineralogist.

The Yreka *Journal* says the Goose Lake country is fast settling up, and good prospects for gold mining are reported about the headwaters of Sprague's river.

Enterprises and Developments.

A Steamboat for Salt Lake.—The Stockton *Independent* of Nov. 14th, says: Gen. P. E. Connor has built on the river Jordan, and ready to be launched, a steamboat to ply on Salt Lake. The machinery for the steamer went from California, but everything else necessary for the equipment of the boat was furnished on the ground. During the winter the steamer will be used for towing ties for the Union Pacific Railroad, but during the coming summer it will be fitted up for the accomodation of passengers.

There is a keen rivalry between Wells, Fargo & Co. and the Pacific Union Express Company at prominent point in the interior.

A buckskin glove manufactory at Grass Valley is said to be doing a good business.

During the past ten months, or since January 1st, Davis & Cowell, at Santa Cruz, have shipped 69,350 barrels of lime—an average of 6,935 barrels per month. Thirteen schooners and three steamers run regularly between Santa Cruz and San Francisco. Ninety-four trips were made by these vessels during the month of October.

Richard Trelfall, of Livermore Valley, has farmed 7,000 acres of land, and is still engaged at threshing.

About 1,000,000 feet of lumber has recently been shipped to Shephard's Ferry, on the San Joaquin river, where a town of of considerable size is expected to grow up.

The receipts of the Oakland and San Francisco Railroad for October amount to $20,742.

Lyons, Michigan, has 100 acres of peppermint under cultivation, and has made this year 1000 pounds of pure oil, and is still at it. The oil is worth $8 a pound.

Laws of Growth of the City of San Francisco.—A writer of occasional very valuable articles in the *Bulletin* sets down the annual growth of San Francisco at 10 per cent. compounded; that rate having proved the law for ten years past, and being likely to hold good for at least five, if not ten years more. The immediate future is forecast thus:

1868	143,000	1871	189,000
1869	157,000	1872	207,000
1870	172,000		

The actual increase the past year has been 13.1 per cent.

Vallejo Railroad Wharf in the City. The California Pacific Railroad Company have secured from the State Harbor Commissioners that portion of the new water front on the easterly side of Front street, extending northwardly from Vallejo street 325 feet, with a uniform depth of 60 feet. The portion of the water front next north to Cunningham's old warehouse, is secured by Mr. Campbell for grain purposes.

Commercial Fertilizers.—An association has been formed in England for the purchase of super-phosphate at the lowest rates, and to discourage all other kinds of commercial fertilizers.

Advertising Bell.—A Detroit editor has invented a bell to be attached to bulletin boards, walls, fences, and so forth, to attract attention to the advertisements pasted thereon. It is operated by a coiled spring with clockwork gearing, and when wound up and set running it will sound at intervals of a few seconds continuously for a week, if desired.

We should not guarantee but that some of these machines would be served with an injunction occasionally in a popular way—with a convenient brickbat, perhaps.

MINING AND SCIENTIFIC PRESS.

W. B. EWER,.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

DEWEY & CO., Publishers.

OFFICE—No. 414 Clay street, between Sansome and Battery.

WRITERS should be cautious about addressing correspondence relating to the business or interests of a firm to an individual member thereof, whose absence at the time might cause delay.

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OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

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BLACK HAWK, C. T.—Harper M. Orahood.
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Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

San Francisco:

Saturday Morning, Nov. 28, 1868

Notices to Correspondents.

J. B. T., Petropolis, Snowy District, Los Angeles County.—This correspondent informs us that he has a large body of asbestus, having the general features, color, etc., of rotten oak wood. Our informant further states that he can chew this substance into a pulp, resembling paper pulp, and conceives that it might be manufactured into an incombustible article of that class. From the statements given, we should doubt whether the mineral so described is true asbestus, its usual somewhat brittle filiform character unfitting it for making paper pulp. If, however, the mineral under notice could be manufactured into paper in the manner suggested, its indestructibility from fire would be of little economic advantage for written or printed documents, unless the ink to be employed in such cases is indestructible by the same agency. For making room paper, however, a paper so constituted might be found valuable in cases of fire. If our correspondent's asbestus is sufficiently filiform to make cloth, we would suggest that lamp-wicks, such as those employed in burning the lighter forms of coal oil, might be very advantageously manufactured of it.

T. S. M.—Equal volumes of different gases or vapors do not always correspond to the same number of equivalents; or otherwise stated, the equivalents of different substances, when gasified, do not fill an equally large space, hence the equivalent volumes of gases and vapors are of different size. These gaseous volumes, however, always bear to each other a simple ratio, such as 1 to 2, 1 to 4, etc., the difference being subjected to known laws.

B. L.—ISOMORPHISM.—Gay Lussac was the first who made the observation that a crystal of potash-alum on being put into a solution of ammonia-alum, continues to increase without changing its original form. This illustration was the foundation of the observations made thereafter by many experimentalists on the phenomenon which forms the heading to this paragraph.

W. Q. J., Yreka.—There are instances known in which the expansion of gaseous bodies favor their combination with others. Thus, phosphorus undergoes slow combustion in oxygen gas however low the temperature may be, the action becoming more rapid as the gas becomes more rarefied. A mixture of oxygen and non-inflammable phosphuroted hydrogen gases explodes on expansion.

COPENHAGEN.—Stoichiometry is a term employed by the continental European chemists to denote the doctrine of chemical proportions or chemical equivalents. The word was first employed by German chemists, and is now used chiefly by them.

A YOUNG MINERALOGIST.—Chalcedony is a mixture of quartz and opal; boiling caustic potash will dissolve out the latter, leaving the former in a state called "cacheloug."

Chemical and Metallurgical Establishments.

THE SAN FRANCISCO CHEMICAL WORKS.

There is at the Mission another chemical manufacturing establishment of importance, which is the oldest in the State. This is the Judson Bros' establishment, known as the San Francisco Chemical Works; where sulphuric, nitric, and hydrochloric acids, besides sal soda, bluestone, and some of the materials required in the manufacture of soaps and candles, are also manufactured. As ventilation is most necessary for the health of the employés engaged in an acid manufactory, no care has been taken to keep the walls of the wooden building near Folsom street, in repair, but the operations are found to be going on all the same. As early as 1854—fourteen years ago—the manufacture of acids was begun at this place; it continued for a long time to be considered as located in the "country"; but the houses crept up to it apace, and it is now unquestionably in the city.

The originator of the enterprise was Mr. Mayer, an old preacher who was also a good chemist, of Philadelphia, supported by Dr. Coon. Mayer got in debt, and Mr. Egbert Judson became interested in the enterprise, first coming to the rescue with funds, and afterwards taking charge of the entire business.

In those early days it was difficult to get the materials which were required for an acid factory. A lot of ornamental Chinese flower pots of immense size, came to San Francisco on a bad speculation, and were turned by Mr. Judson into acid condensers, by luting them at the top and connecting them with pipes. They are now used for other chemical purposes, their finely executed ornamental designs begrimmed with virulent fluids, furnishing an odd reminiscence of the eventful past. For seven or eight years all the acids for the mint were manufactured here—until 1865, when Mr. Wakelee started the Golden City Works, and put in a lower bid to furnish the acids than the Judsons thought they would be justified in doing. At present they are making nitric acid for the new Giant Powder manufacturing company. Sulphuric acid is made on a considerable scale, the lead chambers and other appliances for that purpose being simply and economically arranged. Both these acids and hydrochlorie acid, are made as described in connection with the Golden City Works.

Sal soda, or carbonate of soda, is made here, not from the remnants of nitric and hydrochlorie acid manufacture, but from soda ash, derived from England. This is done in a separate department, under persons who are especially familiarized with the method. Lye is put into a row of tubs, and the soda crystallizes on the surface, looking like ice; underneath it are very large monoclinic arrow-head shaped crystals, having edges as sharp as a razor. About 1,700 lbs. a day are manufactured. The price of imported soda formerly was seven cents a lb., but when this business was started the importers cut it down to their lowest figure, in order to starve out the home manufacture; the price being now 2½ cents. The principal use made of sal soda is for washing powders.

The natural soda or alkali which is found incrusted plentifully on the alkali flats in Nevada and Utah, is also monoclinic in crystallization; it is called Trona, or prismatic natron when a sesqui-carbonate, and natron when an equal carbonate, the latter being the "nitre" of the Bible; but the distinction is not easy, and unimportant, practically. Gay Lussite and Thermonatrite are qualitatively the same as Trona.

Copperas, or green vitriol (sulphate of iron) is made to a limited extent, of old rusted sheet iron, with sulphuric acid. It is used for a variety of purposes.

A candle manufactory is carried on by the Judsons at a little distance from the chemical works, where 100 boxes of very superior candles are made daily; and they have also a silver and gold refining establishment in the vicinity of the Naval Hospital, which will be spoken of in connection with the other refining works.

Idaho Brought Near to Us.

NORTH AND SOUTH INTERIOR RAILROAD.

By means of a nearly level road, according to reports, between Argenta and Flint City, Idaho, now in progress of construction, that important mining center, embracing, with Silver and Ruby cities, the chief metalliferous and timbered section in Idaho, will be brought within nearly the same traveling distance of San Francisco as Austin and Belmont, Nevada. More definitely speaking, it will be only about one hundred miles by this new route, through an easy pass in the South Mountain, from the Pacific Railroad to the metalliferous heart of Idaho.

Argenta, it would thus seem, is to become the junction of two most important branches of travel, which in time will become one road, and a railroad,—running north and south between the hills and along the alkali flats of the "basin." There is more demand, and more reason for the construction of such a road in the longitude of Austin, southward towards the Colorado, to open up and develop the rich regions of the eastern slope, or northward to the convenient waters of Snake River, which just there makes a great sweep to the south, as if on purpose to accommodate the mining interests of that important belt, than there is in the longitude of Salt Lake; for railroads must go where they are needed, as well as where they can be easily constructed.

STATE PREMIUMS.—The Board of State Judges on Agricultural and Manufacturing Premiums, consisting of Gov. Haight, Reed, President of the State Agricultural Society, Hallidie, President of the Mechanic's Institute of San Francisco, Parks, President of the Northern District Agricultural Society, and Doake, President of the San Joaquin Agricultural Society, have awarded to several parties premiums, under the law of 1868, for raising cocoons. That law allows $300 for each 100,000 silk cocoons, and under it Mr. Haynie was allowed $1,350, the largest sum any one person was entitled to. About $8,000 in all were awarded as premiums. No application for mulberry trees was filed.

In the first department (stock), J. D. Patterson received the medal. Second department (machinery), Pacific Iron Works, San Francisco. Third department (mill goods and textile fabrics), Mission Woolen Mills, San Francisco. Special premium to the Pacific Tannery and Boot and Shoe Company. Fourth department (mechanical products), California Powder Works, of Santa Cruz. Special medal recommended to N. P. Cole & Co., of San Francisco, for furniture. Fifth department (agricultural products), I. Landsberger, of San Francisco, for California champagne. Sixth department (fruits), B. N. Bughey, of Folsom, for raisins. Seventh department (fine arts), P. J. Devine, of San Francisco, for marble bust.

FROM GRASS VALLEY.—Our agent, W. H. M., writes:—I went down into Capt. Lee's mine, the Ophir, at Grass Valley, today. He took me all through it. They are down 800 feet, and their new engine is going, having already pumped out all the water. When it was put in there were 200 feet of water in the shaft. It is an 18-horse power engine, and a very fine one indeed. They have struck rich rock since the beginning of the week, a piece of which Capt. Lee gave me to put in a ring. * * The contract for putting in the 10-stamp mill at the Coe mine has been let to W. W. Boston. * * All the gentlemen around here ask me about Mr. Ewer, and when he will return from the East.—[About the first of January.—ED.]

The Earthquake Commission.

From the initial steps taken by the joint Committee of the Chamber of Commerce, of the Academy of Sciences, etc., on earthquake topics, no less than from the character of the men whose names appear in connection with the work to be undertaken, the impression has gone abroad, with due ground to inspire confidence as to its correctness, that something is to be done which will result: firstly, in a collation, and consequent general dissemination of some correct knowledge touching the observed facts and laws concerning earthquakes, so far as the same may have been collected by observers in that specialty in this and other countries; and secondly, in developing and recommending such a practical system of alterations in the construction of buildings as is required by the exigencies of a practical and inventive race, which has suddenly come to a realization of the truth that the "path of empire" has brought it into an uncomfortable proximity with, and a necessity to deal with the subterranean affairs pertaining to the god Pluto. The American character is notorious for its talent of prompt adaptation to circumstances; and were it necessary, or should gray-eyed destiny in the shape of anything transformable into dollars invite, there is scarcely a doubt but that practical means would be speedily devised for living comfortably, and safely, even in a land of perpetual trembling and quaking, though it were in Hades; provided only that the transition were not too disagreeably sudden, for the Yankee does not attempt to adapt himself to anything that he does not understand. Let it be a land of rivers or of lakes of fire,—and the American will sit and watch the phenomena of their burning flow, as Titus Coan, the missionary at Hilo did, on an island between the divided branches of the infernal stream; or he will venture into the pit where the rocks themselves are molten, and the skin is blistered wherever the clothing touches it, as Dana and some of his party did at Kilauea, for the purpose of studying the mysteries of the earth's interior and getting an insight into the conditions of her physiology in her very bowels.

That this committee will be able, if they follow up an enlightened plan, to tell us something worth knowing concerning earthquakes and earthquake proof building, we may safely conclude. But the names will furnish the reader with the best means of judging for himself as to what they may be expected to accomplish. They are as follows:

Citizens—James Otis, President Chamber of Commerce; George Gordon, Louis Saehs, R. B. Swain; James Lluforth, Secretary of Committee, *pro tem.*

On Scientific Inquiry—Dr. James Blake, William H. Rhodes (Caxton), Prof. Thomas Rowlandson, F.G.S.

Civil Engineers—A. W. Von Schmidt, civil engineer of Dry Dock, Hunter's Point; Calvin Brown, C. E.

Architects—William Patton, John P. Gaynor.

Mechanical Engineer—Joseph Moore, Vice President Risdon Iron Works.

Military Engineers—General Alexander, President of the Board of Military Engineers on the Pacific Coast; Colonel Mendell, in charge of construction of fortifications; Colonel Williamson, engineer of light-houses and harbor improvements; Major Elliot, in charge of construction of fortifications.

Legal—John T. Doyle.

Sub-Committees were appointed: 1st, on bricks, stone and timber; 2d, on limes, cements and metallic or other bands and braces; 3d, on structural designs; 4th, scientific and the collection of facts; 5th, legal, the law governing building; and a well devised programme of investigation has been mapped out for each subdivision.

The Commission was organized by electing George Gordon as President, and Prof. Thomas Rowlandson and Michael Bridges as joint Secretaries—the last two being allowed a compensation of $500 each, for a service that will last perhaps four months. It is estimated that about $20,000 will be needed to prepare the material for the report which is to be made, and a committee has been appointed to obtain that amount by subscription.

Ore Deposits and Metallurgy at White Pine.

The following is from a private letter written by a competent and well informed mining engineer of Austin:

"You ask me whether I have caught the "White Pine" fever. I can't say that I have, although almost everybody in Austin has caught it more or less. But then there is much to be said in palliation of the poor fellows who have it bad, especially when one sees the wonderful "piles' of silver, which are being shipped upon so short notice, out of the wilderness. Very reasonable estimates give one million and a half to two millions as the probable yield for the next summer.

The ore occurs as the PRESS correctly stated, in bodies of irregular extent in limestone, or perhaps more correctly in dolomite. On Treasure Hill proper, perhaps ten distinct bodies have been found, several of very great extent (Eberhardt, Keystone, Bluebell, Aurora). But the most peculiar, and as yet entirely undeveloped occurrence, is that upon "Chloride Flat." At the base of Treasure, and between this and the next hill is a shallow ravine, and this is called "Chloride Flat." Sink any where upon it, and after going through from 15 to 20 feet of limestone you will strike a layer of "calespar" from one-half inch to one foot thick, and beneath it what appears to be a layer of ore, often of immense richness. This peculiar position of the ore affords a wonderful facility for its extraction, and Stetefeldt, who has visited the district several times, says that it is possible to "ahban" (to mine out) the whole in two years, with a production of silver as yet not to be estimated. The ore is a pure chloride *i. e.* horn silver, mixed with quartz. But the Ag Cl does not appear as a molten or crystallized solid mass, (which would not amalgamate easily), but as a porous black or brown substance, amalgamating, from this peculiarity, most readily. In crushing there seems always to remain a certain portion of this Ag Cl, inclosed in quartz, which protects it and creates a loss in amalgamation, varying from 20 to 5 per cent., according to the ore. From this explanation you will perceive that it is very natural that $1,000 to $2,000 rock works easily within 95 per cent. of fire assay, while the poorest, say $60 to $100 rock, only works up to 80 per cent. It would be changed by the use of finer screens. It has been tried to roast the ore, but with very poor success, since, instead of producing easily 90 per cent. after roasting, only 75 per cent. were produced, the roasting having melted or "sintered" the horn silver, and as everybody knows, in such a state, it is not likely to amalgamate."

In the *Mining Magazine*, published some years ago by Prof. Wm. P. Blake, there will be found an interesting account of the occurrence of immense chloride deposits at Chañarcillo, Chili, written by E. B. Dorsey, M. E., former superintendent of the Mexican mine at Virginia City, and who was previously connected with the Chañarcillo mine. Mr. Dorsey has shown us his original drawing, representing a section of that mine, which was a true fissure vein in limestone, containing sulphurets in the depths, and chlorides near the surface, with lateral horizontal infiltrations and stockwerks between the strata of the limestone, precisely as at White Pine. We deem this account of such interest in connection with White Pine, as to warrant its reproduction in our next issue.

A very full and interesting account of what may be seen and learned on a visit to White Pine, written by Albert S. Evans, was published in the *Alta* of Nov. 26th, which contains the most complete and reliable, as well as the best written presentation of facts hitherto published, from the notes of a visitor to the spot. He says:

It is a singular fact that while Treasure Hill, which dips westward, is full of deposits of silver of incredible richness, the corresponding hills on the eastward do not contain, so far as is yet known, a single pound of metal of any kind. On the western slope of Treasure Hill, immediately adjoining the town of that name, is Chloride Flat, where hundreds of shafts have been sunk through the limestone to a depth of ten to thirty feet, and deposits of horn silver and chlorides of great value are found to underlie the whole ground, few shafts missing the precious metal entirely. The silver is found along this crest of the hill in vast irregular deposits, in the form of chlorides, bromides, sulphides and ruby and horn silver, not a trace of the ordinary sulphurets being found, and no base metal to interfere with the immediate working of the silver making its appearance. In some places the silver takes the form of "stephanite" and "stetefeldtite," the latter being peculiar to the mines of Eastern Nevada. No gold is found, and the ore is wonderfully tractable. The formation of this part of the district is unlike that of any other yet known on the continent, but we were told by parties who professed to know that the mineral deposits are similar in character, though far exceeding in extent and riches, those of the famous German mines of the Hartz Mountains, and those of Potosi, in Peru, which have been worked for centuries and are not yet exhausted. We should here mention that the ore at this point is mixed with black and white calcareous spar, red quartzite and quartz, but no defined quartz ledges, or fissure veins, like that of the Comstock, have been discovered thus far. What may be found deeper in the hill remains to be seen. * * The ground abounds with detached fragments of lime rock, filled with marine fossils, among which the ammonite, spirifer, corals and seaweed are most abundant. In some places there is a layer of coarse calcareous slate, like red earthen tiles, under the top dirt, and the deposits of silver lie between this and the limestone, while in others the limestone both overlies and underlies the silver deposits, and in places there appears to have been an unheaval or cross action, which has displaced both and jumbled together the country rock and metalliferous deposits in apparently inextricable confusion, making it impossible to judge at this stage of development whether the deposits run in a horizontal or perpendicular direction. * * * Descending the hill towards the westward, occasional deposits of rich ore are found cropping out, but not in large quantities as yet. Crossing the cañon which divides Treasure Hill from the Base Range, and passing over to the cañon between the Base Range and White Pine Mountain proper, a line of deposits of silver, and other metals in combination, is found extending north and south on both sides of the ravine for two or three miles. These are situated at a depth of from 1,000 to 2,000 feet below the Treasure Hill deposits, and though the mines have been but recently located, and are as yet little prospected, the indications of richness and permanency are very flattering indeed. There is a great variety of ores here, some of which are doubtless very refractory, and only to be reduced by smelting. There is copper-silver glance, argentiferous galena, carbonate of lead and silver, antimonial silver, and numerous other combinations more or less well defined. The country rock here is limestone, as on Treasure Hill, and the deposits, though extensive, appear to lie horizontally or more nearly so than perpendicularly.

THE GOLD COUNTRY IN SOUTH AFRICA. British colonial newspapers from South Africa contain ample details concerning the geography and gold deposits of districts in the interior of that country having new and unheard-of names, which will get into the the atlases in time to become familiarized by the next generation of school children. At about 29° E. longitude, the 20th parallel S. latitude is crossed by a range of hills running from northeast to southwest. This range is called the Matoppo Hills. From the southeastern face of this range several rivers flow downwards to the great river Limpopo. The chief of these tributaries is the Shashe, which in its turn is fed by many streams. One of its feeders is the Tati, and another is the Ramaquahan. It is apparently in the wedge of land between these two minor rivers that the fields of glistening quartz, veined with gold are to be found. Thus, speaking generally, the site of the diggings is contained within a triangular area, whose base is about forty miles, and whose sides are respectively eighty and ninety miles; and we may place the gold fields within the 29th and 30th meridians, and the 20th and 21st parallels. It is not improbable that this is part of the field which supplied the ancient city of Ophir of King Solomon's times, rediscovered. Diamonds are also found in South Africa, on the farms and in river-beds.

SILICATED TIMBER.—It is stated that timber rendered fire-proof by saturation with silicates is extensively used in Germany for flooring planks, doors, and staircases.

SHIP-BUILDING PROFITABLE.—Numerous safe harbors and land-locked bays on our coast afford the best facilities for ship-building. Our extensive pine forests yield abundantly pitch, tar, turpentine and rosin. Hemp and flax thrive on our soil. We possess all the raw materials in abundance, says the *Commercial Herald*, and all who have embarked in ship-building have succeeded and become independent. A ship of a thousand tons can be built and put afloat for $60,000; a single freight of wheat at £3 would yield $15,000, or one-quarter the whole cost of construction. But a ship registering one thousand tons will carry thirteen hundred tons of cargo, which, at the same rate, would give a freight return of $19,800.

AMERICAN POLICY WITH THE DARIEN CANAL.—In reply to a speech of General Acosta, Minister to the United States from Colombia, President Johnson declared that it was the policy of the United States not to interfere with or covet the absorption, conquest, or protectorate of any of the Spanish American republics, but, on the contrary, we wished them to remain free and independent. Speaking of the inadequacy of the railroad across the Isthmus for the wants of commerce, Mr. Johnson said that, if encouraged to do so, citizens of the United States would within two years construct and complete the long desired ship canal across the Isthmus of Darien, a work which would permanently raise the Colombian republic to a high rank among nations.

SEMAPHORE STEERING APPARATUS.—Mr. George Read, an officer in the English Coast Guard service, has invented an apparatus by means of which the direction which a vessel intends to steer is distinctly and unerringly indicated to any other vessel which may be approaching, and all possibility of collision thereby avoided. The differently colored port and starboard lights are so arranged as to be concealed except when raised into view by the turn of the wheel, such turn, to the right or left, as the case may be, exhibits the corresponding light. Several officers of the Royal Navy have expressed themselves in terms of warm commendation in regard to the invention.

STEAMER MANAGEMENT.—Mr. W. H. Webb, late owner of the opposition line of steamers, bought heavily in the stock of the Panama line while it was depreciated, and has now been elected one of the directors of that line.

REMOVAL.—Mr. John Roach, one of the very best and longest established opticians of this city, has removed his office to No. 640 Washington street, as will be seen by his card in another column.

A NOTICEABLE FACT.—That one way of appealing to a man's reason is through his eye. In these busy times men are so deeply immersed in the conduct of magnificent projects that they forget all about the condition of their systems, and hence it is that the proprietors of the PLANTATION BITTERS, which cures Dyspepsia, purifies the Blood, improves the tone of the Stomach, regulates the Bowels, and, indeed, invigorates the whole inner man, are so active in advertising. In fact, advertisements are mere sky-rockets sent up to attract attention to a really good article. *

NOTICE.—Persons interested in locating Mineral Lands in California or Nevada, will do well to observe the advertisement of N. Wescoatt, S. & M. E., in another column.

SULPHURETS and rich Rebellious Ores are wanted in this city, by ROBT. TAYLOR & CO. See advertisement in another column. 17v17tf

RETURNED.—Dr J. H. Paine, Dentist, Wadsworth House, No. 225 Bush street, between the Occidental and Cosmopolitan Hotels, San Francisco. 21v17-4m

SAVE YOUR TEETH.—Drs. Jessup & Beers, over Tucker's jewelry store, are now making a specialty of filling the fangs of dead Teeth, and building up broken crowns with *pure gold*—thus restoring them to their original usefulness and beauty. They are also using Nitrous Oxide for the painless extraction of Teeth, when so desired—the only absolutely safe anæsthetic ever discovered. In breathing it, it acts as a gentle stimulant, without undue excitement,—the sensation produced being truly delightful, the effect upon the lungs healthful, and in its results positively free from all danger. Prepared and administered daily at the Dental Rooms of Messrs. JESSUP & BEERS, corner Montgomery and Sutter streets, San Francisco. 16v16tf

Builders' Insurance Company—OFFICE IN THE BUILDING OF THE CALIFORNIA SAVINGS BANK, California street, one door from Sansome street.
☞FIRE AND MARINE INSURANCE. 10v14t9pqr

PACIFIC
Rolling Mill Company,
SAN FRANCISCO, CAL.
Established for the Manufacture of
RAILROAD AND OTHER IRON
—AND—
Every Variety of Shafting,
Embracing ALL SIZES of
Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames
—ALSO—
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Of every description and size.
☞Orders addressed to PACIFIC ROLLING MILL COMPANY Post Office, San Francisco, Cal., will receive prompt attention.
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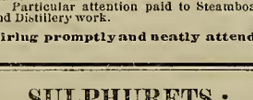
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EARTHQUAKE INDICATOR.—The following suggestion from J. D. Cooper, M. D., to the *Evening Bulletin*, appears to have merit. He says:—"Since the Japanese magoet indicator has proved a failure, we are now obliged to look for some other means of prognosticating these fearful convulsioos, and I wish to suggest the following mode by which we may make electricity the means, perhaps, of saviog thousands of lives in case of the occurrence of more severe shocks than we have yet experienced. It is well known that these shocks are produced by a wave-motion of the surface of the earth, the waves radiating from a center just as they do in water when a stone is thrown in. If this center happens to be far enough from the city, we may be easily notified of the coming wave in time for all to escape from dangerous buildings before it reaches us. The rate of velocity, as observed and recorded in Dr. J. B. Trask's work on *Earthquakes in California from* 1800 *to* 1864, is 6 1-5 (six and one-fifth) miles per minute, or a little less per hour (40 miles) than the tidal wave is reported to have traveled across the ocean to this port from the Sandwich Islands or Japan.

A very simple mechanical contrivance can be arranged at various points from 10 to 100 miles from San Francisco, by which a wave of the earth high enough to do damage, will start an electric current over the wires now radiating from this city, and almost instantaneously ringing an alarm bell, which should be hung in a high tower near the center of the city. This bell should be very large, of peculiar sound, and known to everybody as the *earthquake bell*. Of course nothing but the distant undulations of the surface of the earth should ring it. This machinery would be self-acting, and not dependent on the telegraph operators, who might not always retain presence of mind enough to telegraph at the moment, or might sound the alarm too often. As some shocks appear to come from the west, a cable might be laid to the Farralone Islands, 25 miles distant, and warnings thus given of any danger from that direction.

Of course there might be shocks the central force of which was too near this city to be thus predicted, but it is not likely to occur once in a hundred times.

COÖPERATION OF WORKINGMEN. — The *Colliery Guardian* reports the proceedings of the International Workingmen's Congress, held at Brussels, in September last. At one of the sittings, the effect of machinery upon manual labor was discussed. Papers were read upon the wage-reducing effect resulting from the displacemeot of manual labor, and substituting women's and children's labor for that of men. It was urged that a complete transformation of society had occurred, an unprecedented progress in production made, which had resulted in a sweeping competition, which was always detrimental to the working classes; and that this would continue as long as machinery remained the monopoly of the capitalists. The commission appointed to report upon the question proposed the following:

"Considering that the introduction of machinery in the process of manufactures has always been a means of using the laborer for the profit of the capitalist; considering that the machine will not render a real service to the workingmen until it is in their hands, we conclude that it is only in the coöperative association that the producers can arrive at any practical result, and that the obstacles which to-day prevent workingmen from deriving any benefit from the machine can be removed."

ELECTRIC PERPETUAL MOTION. — The *Monitor* of San Luis Potosi, Mexico, describes an electric perpetual motion, invented by Francisco Estrada, Sr. Electricity starts the motion, and the latter produces electricity, causing continual motion, only to cease with the destruction of the apparatus. The *Monitor* thinks that Estrada was the first to combine both of these elements so that they mutually reproduce each other. Besides, says the *Monitor*, Mr. Estrada's machine impulsively moves as soon as the last piece of the machinery is affixed, and continues afterwards without cessation. Estrada claims to demonstrate that electricity, magnetism, light, motion and heat, are one and the same element.

SEAMEN BECOME LANDSMEN.—It is estimated that since the war four millions of American seamen have been weaned from the ocean and have devoted themselves to other pursuits. These men have become producers instead of consumers, and the money formerly paid to them for maritime service now goes to maintain the naval supremacy of other countries.

EATING CLOUDS.—Dr. Livingstone, relating his adventures on Lake Nyassa, thus tells of one curiosity which he fell in with:

"During a portion of the year the northern dwellers on the lake have a harvest which furnishes a singular kind of food. As we approached our limit in that direction, clouds, as of smoke rising from miles of burning grass, were observed bending in a southerly direction, and we thought that the unseen land on the opposite side was closing in, and that we were near the end of the lake. But next morning we sailed through one of the clouds in our ride, and discovered that it was neither smoke nor haze, but countless millions of minute midges, called "Kungo" (a cloud of fog). They filled the air to an immense hight, and swarmed upon the water, too light to sink in it. Eyes and mouth had to be kept closed while passing through the living clouds; they struck upon the face like fine drifting snow. Thousand lay in the boat when she emerged from the clouds of midges. The people gathered these minute insects by night and boiled them into thick cakes, to be used as a relish—millions of midges in a cake."

OPPORTUNITY FOR INVENTION.—In view of the establishment of new markets in London for the rapid transit and distribution of food as supplies in the metropolis, the Society of Arts offer as prizes for the best improved models of railway meat vans, milk vans, and milk cans, the Society's silver medal and £10 for the best plan of each. In the first case, the object in view is to reduce to a minimum the deterioration which meat now suffers in its transit by rail. The principal evils to be avoided are—excessive changes of temperature, and injuries by pressure, by handling, exposure to dust, insects, etc. The other competitions are intended to produce plans for obviating the injury done to milk on its transit by the shaking and the heat.

THE CHEYENNE AND DENVER BRANCH R. R.—Work is being done on the Cheyenne and Denver Branch of the Union Pacific Railroad. The latter road can hardly supply itself with iron at the present time, and can spare no cars to bring iron to the Denver road; but it was thought that the grading of the whole fifty miles would be finished about the first week in November, so that travelers to the Colorado mines will be able to make the trip to Denver in the cars by Christmas.

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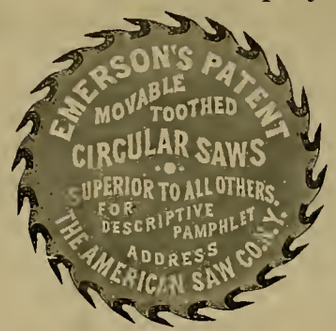
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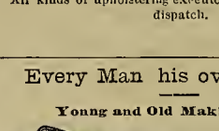
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and Steel.—By Ed. Urbin, Eng. of Arts and Manuf. A Prize Essay read before the Association of Engs., Graduates of the School of Mines, of Liege, Belgium, 1865-6. To which is added a Comparison of the Resisting Properties of Iron and Steel, by A. Brull. From the French, by A. A. Fesquet, Chemist and Engineer. 8vo., cloth..... $1 00
☞The above, or any of my publications, sent free of postage, at the publication prices. My new and enlarged CATALOGUE OF PRACTICAL AND SCIENTIFIC BOOKS, 56 pages, 8vo, is just ready, and will be sent free of postage to any one who will favor me with his address. 20v16tf

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THE SUBSCRIBER, HAVING SERVED FOR THE LAST five years as Secretary of various mining companies, feels fully competent to serve in that capacity. Any parties wishing to secure the services of a Secretary can be accommodated on reasonable terms. Information given, and all necessary papers correctly made out.
Having had a long experience in the purchasing of goods and machinery for miners, parties in the mines will find it to their advantage, where purchasing agents are employed, to send their orders to the undersigned.
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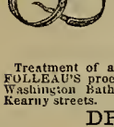
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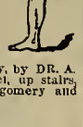
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Proprietor of Petroleum Stove for California, and Agent for Universal Oil Stove for Pacific Coast.

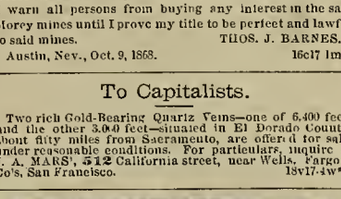
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TO ALL WHOM IT MAY CONCERN.—Notice is hereby given that I am the first discoverer, first locator, and first Recorder of the Morey District, Nye County, Nevada, and I warn all persons from buying any interest in the said Morey mines until I prove my title to be perfect and lawful to said mines. THOS. J. BARNES.
Austin, Nev., Oct. 9, 1868. 16c17 1m

To Capitalists.

Two rich Gold-Bearing Quartz Veins—one of 6,400 feet, and the other 3,00 feet—situated in El Dorado County, about fifty miles from Sacramento, are offered for sale, under reasonable conditions. For particulars, inquire at J. A. MARS', 512 California street, near Wells, Fargo & Co's, San Francisco. 18v17-4w*



19v17tf

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On the 6th, 14th, 22d and 30th of every month.

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Departure of the 14th is expected to connect with the French Trans-Atlantic Co.'s steamer for St. Nazaire, and English steamer for South America. Through tickets can be obtained.

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November 21st—COLORADO.....Capt E. S. Farnsworth, Connecting with HENRY CHAUNCEY, Capt. Connor.

November 30th—SACRAMENTO.....Capt. W. H. Parker, Connecting with ARIZONA, Capt. Maury.

Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult.

An experienced Surgeon on board. Medicine and attendance free.

These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.

Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—if desired an amount of £10 to £20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England.

The Steamship GREAT REPUBLIC, Capt. S. Doane, will be dispatched on SATURDAY, October 3d, at 12 o'clock M., from wharf corner of First and Brannan streets, for YOKOHAMA and HONGKONG, connecting with the COSTA RICA for SHANGHAI.

For Merchandise and Freight for New York and way ports, apply to Messrs. WELLS, FARGO & CO.

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To Inventors on the Pacific Coast.

Messrs. DEWEY & CO.

Take occasion to call your attention to the following rules, regulations and suggestions relative to the obtaining of LETTERS PATENT of the United States:

Steps Necessary to Procure a Patent.

The FIRST thing required is a model, if your invention can be represented by one. It is not only immediately necessary in preparing the papers, but the law demands that the inventor shall, in all cases, furnish a model, which must not exceed twelve inches in any of its dimensions. A model of less size will answer when more convenient. It should be neatly made, and of hard wood or metal, or both, varnished or painted; the name of the inventor should be engraved or painted on it in a permanent manner.

When the invention consists of an improvement on some known machine, a full working model of the whole will not be necessary. It should be sufficiently perfect, however, to show, with clearness, the nature and operation of the invention.

As soon as the model is ready, it should be carefully boxed and shipped by express, or otherwise, to our address, namely: DEWEY & CO., *Mining and Scientific Press, San Francisco.* Prepay expenses and send express receipt to us by mail.

A full description must also be sent with the model, embodying all the ideas of the inventor respecting the improvement.

Simultaneously with the model, the inventor should send us the first instalment of the Government fee, fifteen dollars. The money may be forwarded either by express with the model, or by mail. The safest way to remit is by draft on San Francisco, payable to our order. Always send a letter with the model, and also the remittance, stating the name and address of the sender. On receipt of the model and Government first fee of $15 in currency, the case is duly registered on our books, and the application proceeded with as fast as possible. When the documents are ready we send them to the inventor by mail, for his examination, signature and affidavit, with a letter of instruction, etc. Our fee for preparing the case is then due and will be called for. The case will then be presented to the Patent Office, and as soon as the patent is ordered to be issued the Government last fee of $20 in currency will be required. The law states that every patent shall be dated as of a day not later than six months after the time at which it was passed and allowed, and notice thereof sent to the applicant or his agent. And if the final fee for such patent be not paid within the said six months, the patent shall be withheld, and the invention therein described shall become public property as against the applicant therefor.

Inventors who do business with us will be notified of the state of their application in the Patent Office, when it is possible for us to do so. We do not require the personal attendance of the inventor, unless it is one of great complication, as the business can be well done by correspondence.

When the invention consists of a new article of manufacture, a medicine, or a new composition, samples of the separate ingredients, sufficient to make the experiment, and also of the manufactured article itself must be furnished, with full description of the entire preparation.

The average time required to procure a patent, when the case is conducted at our agency, is ten weeks. We frequently get them through in less time; but in other cases, owing to delay on the part of Government officials, the period is sometimes extended to four or five months, and even more. We make a special point to advance our cases as rapidly as possible.

Advantages to Patrons of Our Agency.

Some of the advantages to be obtained by patronizing us may be enumerated as follows:

1. Inventors on this coast having their applications for patents made out through our agency, can sign their papers at once, and thus secure their rights at least *three months sooner* than by trusting the same to distant agencies, situated at New York or Washington.

2. As many of the inventions conceived here are especially adapted to the Pacific coast, they should be properly brought out here, which can be accomplished (if the invention is a meritorious one) by illustrating the subject, with a careful description, in the columns of the MINING AND SCIENTIFIC PRESS, *free of charge*; the inventor paying simply for the engraving, which will be executed at a moderate charge. The same cuts can be subsequently used for books, letters or circulars. In a word, we are determined to make it of decided interest for every inventor on this coast to patronize home talent and enterprise.

3. Most inventions on this coast are for objects and purposes but little understood by parties at Washington or other parts of the East. Our mining machinery, processes and operations are best understood by those familiar with their use; and a personal verbal explanation is oftentimes of important service, and enables us to be more successful than agents generally.

4. Remittances of money made by individual inventors to the Government sometimes miscarry, and it has frequently happened that applicants have not only lost their money, but their inventions also, from this cause and consequent delay. We hold ourselves responsible for all fees entrusted to our agency. By sending duplicate correspondence to our Washington agent we avoid hazardous delays.

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In urgent cases tor an immediate patent, persons can deposit the nmount of tho last fees with us, in San Francisco, and have our Washington agent procure the *issue* of the papers as soon as granted, saving the two or three months time which would otherwise be required for the inventor tn receive notice and then forward the money. Money advances for this purpose will be returned, should the application be rejected. By adopting this course, we are enabled, with our other advantages, to secure the *receipt* of pntent papers to inventors nu this Cnnst, at least four or five months sooner than can be done through agents in the East, without the applicant going to the hazardous expense of sending on the last fee before it is known whether the patent will be granted.

What Claims can be Patented?

A knnwledge of Ancient and Modern Mechanics and familinrity with American and Foreign patent issues and rejections, enables us to determine in n measure in all cases what can be pntented, and how much can be claimed as new and novel, and bo covered by Letters Patent. This is one of the most difficult questions oncountered by both old and new inventors—ono in which an experienced counsel is of great service—and yet it can never be positively determined except by presenting n formal application for a patent to the Government, cnbracing a petition, specification, model, duplicate drawings and payment of the first government fees.

Patent Rejections.

First. Refusals are always made by the Patent Office if there is any informality in the specification, or if it does not contain the entire subject matter of the invention, and is not properly nrranged and stamped. A slight omission often proves fatal.

Second. If the drawings are defective, and are not executed in an artistic manuer in India ink, and on sheets of the required size, they are subject to rejection.

Third. Applications are always rejected where the claims conflict with others already patented.

If the rejection should be an unjust one—which sometimes happens—it can generally be reversed, and the patent obtained by contesting the case.

For the prosecution of such cases, obtaining references, making nrguments, and personally attending to explnin the case (through our agent in Washington), *we charge no second fee*, as is the case with some agencies, but attend to the business till finally allowed or twice rejected, without extra charge beyond the Government fee.

Inventors who have rejected cases, prepared either by themselves, or for them by other agents, and desire to asscrtnin their prospects of success by further efforts, are invited to avail themselves of our unsurpassed facilities in securing favorable results. We have been successful in securing Letters Patent in many such cases. Our terms are very moderate.

Dangers of Delay.

Situnted so remoto from the seat of Government, delays are even more dangerous to the inventors of the Pacific coast thnn to applicants in the Eastern States. Valuable patents may be lost by the extra time consumed in transmitting specifications from Eastern agencies back to this coast for the signnture of the inventor, or by reason of return for amendment when addressed directly by the inventor to the Government.

Expense of Applying for Patent.

The Government fee, on filing an application for a patent in the United States, is fifteen dollars; and if the patent is allowed, twenty dollars additional is required. If rejected, the first fee of fifteen dollars is all that is demanded.

To the foregoing officinl fees must be added fees for preparing the various documents and expense of drawings. Our charge for preparing a case, presenting it to the Government, and attending to all business connected with it, varies from $20 to $40.

Following is the list of Government fees, payable in currency:

On every caveat	$10
On every application for a patent, for seventeen years	19
On every application for a design, for 3 y'rs and 6 mos	15
On every application for a design, for seven years	15
On every application for a design, for fourteen years	30
On issuing each original patent	20
On filing a disclaimer	10
On every application for a re-issue	30
On every additional patent granted on a re-issue	30
On every application for an extension	50
On the grant of every extension	50
On appeal to the Examiners-in-Chief	10
On appeal to the Commissioner from Examiners-in-chief	20
On every appeal to the Judges of Circuit Court, D. C.	25

Illustrate your Inventions.

Too many ingenious inventors lose the value of their genius and labor by not bringing their improvements conspicuously or plainly enough before the public—the general reading public.

One of the best means—and the cheapest, too—for eliciting attention to a new invention, is that of illustrating and describing it in the enlumns of the Mining and Scientific Press. To do this in the case of a meritorious improvement (and none other will be accepted), will cost our patrons no more than the price of a first-class engraving.

With a cheap representation we will have nothing to do, as it would be calculated to injure both the inventor and ourselves.

We also take especial pains in furnishing engravings and electrotypes of superior merit, of all kinds, at fair rates, and tender our patrons the benefit of our practice and experience, by advice and assistance, in getting up their circulars, advertisements, etc.

DEWEY & CO.,

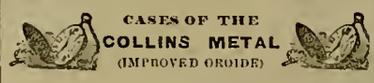
Patent Solicitors, Mining and Scientific Press Office,
414 Clay Street, below Sansome, San Francisco.

September, 1868.

THE CELEBRATED

IMITATION GOLD

$15. Hunting Watches. $20



Special Notice.—Our superior Oroide Watches having recently been imitated, and worthless watches sold in New York, Boston, Chicago, and other cities, represented as our watches, we hereby caution the public against them, and give notice that we are in no way responsible for these bogus concerns, and only those purchasing directly from us can secure a genuine Watch of our manufacture. We have recently greatly improved our Oroide in appearance and durability, and, to protect the public from imposition hereafter, have named it the "COLLINS METAL," and we give notice that any one making use of this name will be prosecuted to the extent of the law.

This metal has all the brilliancy and durability of gold; cannot be distinguished from it by the best judges; retains its color till worn out, and is equal to gold excepting in intrinsic value. All our Gentlemen's Watches are *Full-Jeweled Patent Levers*; those for Ladies an Improved Escapement, better than a lever for a small Watch; all in Hunting Cases, and fully guaranteed by special certificate. The $15 Watches are equal in neatness, style of finish, general appearance, and for time, to a gold one costing $150. Those for $20 are of *extra* fine finish, and are fully equal to a Gold Watch costing $200. Chains of every style, from $2 to $5. Also, Jewelry of the Collins Metal in every style.

To Clubs, where six Watches are ordered at one time, we send ONE EXTRA free of charge. All our prices are in Currency.

Goods sent to any part of the United States by express, to be paid for on delivery. Money need not be sent with the order, as bills can be paid when goods are taken from the express office. Customers must pay all express charges. We employ no agents; orders must therefore be sent directly to us. Customers in the city will remember that our *only Office* is

Nos. 37 and 39 Nassau street, New York,

Opposite the Post Office, (up stairs.)

C. E. COLLINS & CO.

Citizens of Toronto and the Dominion generally, take notice. We have hundreds of testimonials. But you need no further evidence than the following from one who is well known among you. Here is his proof positive.

Harry Hazleton, the well known author, says:

"I have always looked upon cheap watches as humbugs, and dealers in them as little better than swindlers. At the request of a friend, I have worn for three months, the watch he purchased of C. E. Collins, and for which he paid $15. It keeps accurate time, retains its perfect golden appearance, and I can really see no difference between it and my own, which cost five times the amount of the Collins Watch."

Mr. Hazelton adds:

"I have since purchased FIVE of these watches, at the request of friends, and those for whom they were intended are perfectly satisfied. Others are seeking for them, and I fancy that Mr. C. will find some difficulty in supplying the constantly increasing demand."

☞The regular price of the watch is $15, and others costing $20. These are superbly finished, and really superior to any article placed upon the market, costing five times that sum.

Office State Capital Reporter, 42 and 44 J street, Sacramento, Cal., July 15, 1868:

C. E Collins & Co.—Gentlemen:—Wells, Fargo & Co. delivered Watch and Chain, as per order, paid bill on presentation. The Watch and Chain give entire satisfaction, and several of my friends wish the same quality of watch and chain. One is chief editor of this paper, and two others are the publishers of this paper, and the others are for friends of mine, and by wearing your goods will make you a large sale in this city. I therefore wish you to send me seven watches and seven chains, of same quality as those you sent me, price paid you $15 for watch, and $6 currency for chain. I return you the guarantee, it may assist you in ascertaining the exact kind of goods sent me, the number of the watch sent is 66,982. If this order sent turns out as satisfactory as the first, we will give you a good editorial notice, and help you along as far as practicable. I send this order not for my benefit, but for yours and to accommodate my friends. Send to E. K. Phipps, office of "State Capital Reporter, Sacramento, California."

Yours, respectfully,

E. K. Phipps.

Address,

C. E. COLLINS & CO.,

37 and 39 Nassau street, New York.

20v17cow3m

A. T. DEWEY. W. B. EWER.

THE BEST IN AMERICA.

The Mining and Scientific Press,

Is the Oldest and Best MINING AND MECHANICAL Newspaper Issued in the United States.

DEWEY & CO.,

Patent Agents, Publishers, Book and Job Printers, 414 Clay Street, San Francisco.

THE MINING AND SCIENTIFIC PRESS is published every Saturday. Each issue comprises SIXTEEN PAGES (41½ columns), and furnishes more valuable reading matter than any other weekly journal in California.

To the practical mechanic, metallurgist, prospector, millman, mine holder or worker, it is worth many times its subscription price. Its files contain a record of the improvements in mining machinery, the progress and development of the mines, and all new methods and processes for working and

SAVING PRECIOUS METALS

All progressive information, in fact, transpiring with the times—which cannot be obtained from books.

The Mining and Scientific Press is now in its Seventeenth Volume, and enjoys a large circulation. It received the following hearty endorsement of the California Miners' State Convention, held at Sacramento, January 17th, 1866:

Resolved, *That we regard a mining paper or journal of great importance to the mining interests of California, and recommend the* Mining and Scientific Press, *of San Francisco, to the consideration and support of the miners of the Pacific coast.*

Terms of Subscription.—One year, $5; six months, $3—in advance. Send for sample copies. Remittances may be made by mail at our risk. If parties sending will register their letters, or send money orders.

DEWEY & CO.,

New Mining Advertisements.

Alamo Gold and Silver Mining Company.—Location of the Mine, Lyon County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fifth day of November, 1868, an assessment of twenty-five cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, No 319 California street, (Room No 5 Hayward's Building) San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirty-first day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the thirtieth day of January, 1869, to pay the delinquent assessment, together with cost of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F POPE, Secretary.

Office, No. 319 California street, (Room No. 5) San Francisco. no28

☞Gold Hill News copy and send bill to this office.

Nevada County Gold Mining Company, Nevada County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the fifth day of October, A. D. 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Wm B Peake	425 to 450 inc.	26	$26 00
Wm B Peake	261 to 299 inc.	39	39 00
Wm B Peake	300 to 315 inc.		
	341 to 350 inc.	26	26 00
Unknown	141 to 245 inc.	107	107 00
Unknown	257 to 280 inc.	4	4 00
Unknown	356 to 408 inc.	53	53 00
Unknown	471 to 500 inc.	30	30 00
Unknown	91, 93, 410, 452	4	4 00

And in accordance with law, and an order of the Board of Trustees, made on the fifth day of October, A. D. 1868, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the Company, No. 9 Merchants' Exchange, San Francisco, Cal., on Saturday, the twenty-sixth day of December, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

W. AUG. KNAPP, Secretary.

Office, No. 9 Merchants' Exchange, California street, San Francisco. no28

San Francisco and Castle Dome Mining Company. Location of Works: Castle Dome County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fifth day of November, 1868, an assessment of three cents per share was levied upon the capital stock of said Company, payable immediately, at the office of the Treasurer, A. I. Gladding, No. 420 Montgomery street, San Francisco, in United States gold an silver coin.

Any stock upon which said assessment shall remain unpaid on the twenty-eighth day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twelfth day of January, 1869, to pay the delinquent assesment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

A. R SMITH, Secretary.

Office, No. 423 California street, 3d floor, San Francisco. no28

Mining Notices--Continued.

Cordillera Silver Mining Company, Morelle District, Chihuahua, Mexico.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the sixteenth day of October, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No Certificate.	No. Shares.	Amount.
Dickson, John	147	21	$21 00
Dickson, John	147	5	5 00
Alfred Harris	135	5	5 00
Alfred Harris	137	5	5 00
Alfred Harris	148	8	8 00

And in accordance with law, and an order of the Board of Trustees, made on the sixteenth day of October, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on Monday, the seventh day of December, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

HENRY R. REED, Secretary.

Office, 321 Washington street, San Francisco. no21

Colorado Silver and Copper Mining Company, Arizona Territory.

Notice.—The Annual Meeting of Stockholders of the Colorado Silver and Copper Mining Company, of Arizona Territory, will be held at the Company's office, No. 713 Montgomery street, Room No. 40 (3d story), on MONDAY, DECEMBER TWENTY-EIGHTH, 1868, at 3 o'clock, P. M., for the election of Trustees and the transaction of such other business as may properly come before it.

nov14 B. W. MUDGE, Secretary.

Chiplonena Mining Company.—District of Ures, Sonora, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixth day of November, 1868, an assessment of two dollars and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, No. 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eleventh day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-eighth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary.

Office, 318 California street, up-stairs, San Francisco. n7

Diamond Copper Mining Company. Location: Rockland District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-eighth day of October, 1868, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No 40 Merchants' Exchange Building, California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the tenth (10th) day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty eighth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. A. COOLIDGE, Secretary

Office, Room No. 40 Merchants' Exchange Building, California street, San Francisco. oc31

Hope Gravel Mining Company. Location of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of November, 1868, an assessment (No. 27) of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 28 Merchants' Exchange, California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on Tuesday, the twenty-second day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eleventh day of January, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary.

Office, No. 28 Merchants' Exchange, south side of California street, between Montgomery and Sansome streets, San Francisco, California. no21

Rattlesnake Gold and Silver Mining Company, Brown's Valley, Yuba County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the thirteenth day of October, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Bradley M	old issue	7	$50 00
Bradley, A B	old issue	56	10 00
Ely, I	old issue	57	10 00
Findley, Thos.	new issue	26	98 00
Gray, C M	old issue	5	50 00
Gray, C M	old issue	6	60 00
Corde, F	new issue	10	50 00
Knight, D E	old issue	30	108 00
Lawson, J F	old issue	44	98 00
Lamory, E	new issue	11	200 00
Ruggles, D W	old issue	37	10 00
Van Muller, E		20	150 00
Van Muller, E		21	100 00
Van Muller, E		22	50 00
Van Muller, E		23	50 00
Van Muller, E		24	20 00
Vitte, I		55	10 00

And in accordance with law, and an order of the Board of Trustees, made on the thirteenth day of October, 1868, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the saleroom of J. Middleton & Son, 310 Montgomery street, San Francisco, on Monday, the seventh day of December, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN F. LOHSE, Secretary.

Office, 318 California street, San Francisco, Cal. no21

Rippon Gold and Silver Mining Company.—Location of Works: Silver Mountain District, Alpine County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifteenth day of of October, 1868, an assessment of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 87 Stevenson street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the nineteenth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the eighth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

P. CARROLL, Secretary.

Office, No. 87 Stevenson street, between First and Second streets, San Francisco. oc24

Postponement.—The day for deeming stock delinquent on the above assessment is hereby postponed until Saturday, the twenty eighth day of November, 1868, and the sale thereof until Thursday, the seventeenth day of December, 1868. By order of the Board of Trustees.

no21 P. CARROLL, Secretary.

Scantor Silver Mining Company.—Location of Mine: Storey County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second day of November, 1868, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, 408 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the fourth day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the twenty-fourth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINGARD, Secretary.

Office, 408 California street, San Francisco. oc7

U. S. Grant Mining Company.—Location of Works: Carlisle, Nevada County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the ninth day of November, 1868, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 226 Clay street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the fifteenth day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the second day of January, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

ENOS TAYLOR, Secretary.

Office, No. 226 Clay street, San Francisco. nov14

Machinery.

VARNEY'S
PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

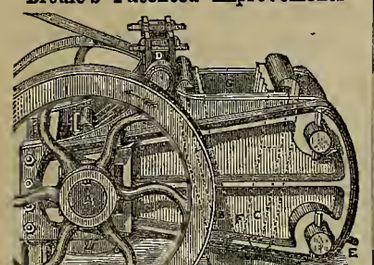
The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setlers for themselves, at the **PACIFIC FOUNDRY,**

1v1 San Francisco.

Brodie's Patented Improvements



FOR THE TREATMENT OF

Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:

No. 1—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price.....$600

No. 2—Or 15 inch Crusher, capable of similarly putting through five to six tons per hour..... 850

No. 3—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour..... 1,200

These Crushers have been erected at several mines in the State of Nevada, and others in Calaveras, Tuolumne and Mariposa counties, to whom applicants can be referred as being the most efficient, cheapest, and least weight compatible with strength and durability, of any Crusher yet erected.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.

JAMES BRODIE, Fulton Foundry, or
CHARLES RADCLIFF,
Express Building, 402 Montgomery street,
12v13tf San Francisco.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE
—BY—

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077

3v13f SAN FRANCISCO.

GLASGOW
Iron and Metal Importing Company

Nos. 25 and 27 Fremont street,

SAN FRANCISCO,

Keep constantly on hand a large stock of best Bar and Bundle Iron, Boiler Tubes, Plate and Sheet Iron, Gas and Water Pipe, Anvils, Cast Steel, Gas and Water Fittings which they offer to the trade on liberal terms.

21v16-3m McCRINDLE, Manage.

IMPORTANT TO LUMBERMEN.

ANDERSON'S
Patent Mulay Saw Hangings.

These Mulays will cut FIFTY PER CENT. MORE LUMBER PER DAY than any other Mulay in use, with fifty per cent. less power. They are very durable, and easily kept in order, and warranted to give satisfaction. No Mulay Mill should be without them, as they will pay for themselves in a very short time. No other mode of manufacturing Lumber can compete with the Mulay Saw with its improvement. Send for circular. FULLER & CO.,

Manufacturers' Agents for the Pacific Coast, 109 Montgomery street, San Francisco.
17v17-3m

Removal.

NELSON & DOBLE,

AGENTS FOR

Thomas Firth & Sons' Cast Steel, Files,

Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks,

Stone Cutters', Blacksmiths' and Horse-Shoers' Tools,

Have removed to **13 and 15 Fremont street,** near Market, San Francisco.

10v14qr

Fire, Hose and Machine Belting.

THE SUBSCRIBER CONTINUES TO MANUFACTURE Oak Tanned Leather Fire Hose, warranted superior to Eastern Hose, manufactured at the Sixth Street Tannery, San Francisco.

21v16tf JOHN J. FULTON.

HYDROSTATIC WORKS.

SAN FRANCISCO

Pump Manufactory

And Patent Water Closets.

M. D. LASSWELL,

No. 747 Mission Street, bet. Third and Fourth.

House Plumbing and Gas Fitting in all of its modes. Lead, Iron and Copper Piping fitted for water, steam and gas. Ship Plumbing, and Ship Pumps made and repaired. Hose of all sizes, Couplings and Nozzles. Roses and Rose Stands, and all kinds of Brass Cocks. Force, Lift and Suction Pumps of all sizes made and set to order.

I am now prepared to make all kinds of Pumps for miners and for irrigating in a large way. I am making four sizes of single acting Brass Pumps, similar to the Haden & Sanders Brass Pumps. I am also making a very superior Pump to any in this market for windmills, single-acting. I am making four different kinds of double acting Force Pumps, and different sizes of each kind. I am also making Artesian Well Pumps of a superior kind. This Pump may be lowered in any well to any depth desired. It is a force pump, or it is a suction pump, or it is a lift pump, and may be worked by hand or windmill, or any kind of power. Can be used for oil wells better than any other, and the Pump is the most durable and easiest repaired of any Pump in the country.

I have invented and am making a superior double-acting Force Pump, called the GOLDEN STATE, which has great advantages over any Pump in this State. It is the easiest Pump repaired, and is the most durable of any Pump in the pump kingdom.

☞This Pump received the **Silver Medal** and highest premium at the Mechanics' Fair; also the highest premium at the late State Fair. At the San Jose Fair my Hydraulic Force Pump received the First Premium, and four other Pumps each a diploma.

Any one in want of a Pump or anything in my line, will do well by calling at my place before purchasing elsewhere. ☞I also keep all kinds of DOUGLASS and other makers' Pumps on hand. 11v17-tf

IMPORTANT TO WOOD WORKERS.

GEAR'S COMBINATION
PATENT
Variety Molding and Planing
MACHINE.

THIS STANDARD MACHINE IS INDISPENSABLE IN any establishment working Wood by machinery. Recent great improvements render it complete for

All kinds of Irregular and Straight Work

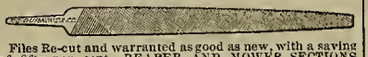
in hard or soft wood, Straight, Waved, Circular and Elliptical Moldings, Spiral Work, and all Irregular Forms, thus saving to the mechanic the cost of several machines to effect the purposes accomplished by this alone. It does not stop in cutting the edges and sides of timber, but operates equally well upon the ends, cutting them into any required form with the same facility that it does the sides. Any shop without it lacks one of the most USEFUL AND PROFITABLE TOOLS now used. It is worthy of the attention of all HOUSE, CARRIAGE, SHIP, BOAT and CAR BUILDERS, FURNITURE and CABINET MAKERS, MILL PROPRIETORS, PATTERN MAKERS, etc., and of all others who desire to make a profitable business from a small investment. Every machine is thoroughly tested at the manufactory and warranted. Further information furnished on application. FULLER & CO.,

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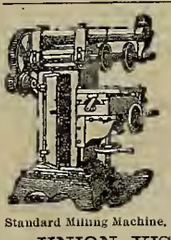
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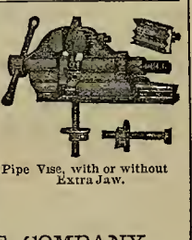


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The Powell Colorado Exploring Expedition.

A correspondent of the Springfield *Republican*, writing from Middle Park in the Rocky Mountains, a spot which may now be considered almost within the precincts of civilization, speaks thus of this meritorious enterprise for adventure in the cause of science and civilization; the results of which we hope to be able to lay before our readers in due time:

We made familiar acquaintance with Prof. Powell's scientific exploring party, from Illinois, while in the middle Park. They were in camp there for some time, and made it the end of their summer and the beginning of their winter campaign. The party comprises a dozen or more enthusiastic young men, interested in one department or other of natural science, or eager for border experiences, mostly from Illinois, and giving their time and labor to the expedition for the sake of the education and the health. Prof. Powell, the originator and head, does more. The Government furnishes food, allowing it to be drawn from the supplies of the nearest post; and the Illinois University and Natural History Society contribute small sums of money; but he draws upon his private purse for all deficiencies, and these must be many thousands of dollars before he gets through. The summer has been spent among the higher mountains and in the parks, taking careful notes with barometer and thermometer, collecting flowers and birds and larger animals, and studying the rare geological phenomena of the country. Their collection of birds is very full and valuable, and numbers over 200 different specimens. Prof. Powell, two or three assistants, and Mr. Byers, of the Denver *News*, who knows all these mountains better than any other man, probably, have just accomplished the ascent of Long's Peak. This is the prominent northeastern mountain of the Coloradian series, is seen from the railroad, and is 14,000 feet high, and has heretofore defied all the efforts of explorers and mountaineers to reach its top. They had a terribly hard climb of it, but felt amply repaid in the glory of the fact, and more in the glory of the landscape spread before them at the summit. The plains and mountains to the north, beyond the railroad, the unending eastern plains, with Denver and the intervening settlements, the whole of Middle Park, and the surrounding and far-beyond mountains—all Colorado, as it were, and part of Dacotah, lay beneath their eyes. Streams flowed out from the mountain in all directions, and no fewer than thirty-nine lakes on that and the neighboring mountain sides, nearly all of and above the altitude of 10,000 feet, were visible from their commanding hight.

From here the explorers will follow down the Grand River, out of the Park into Western Colorado, and then strike across to the other and larger branch of the Great Colorado River, the Green, and there encamp through the winter. After leaving the Grand they will follow down the White River branch of the Green to its mouth, and probably make that junction their winter quarters. This is in the Territory of Utah. The great and final object of the expedition is to explore the upper Colorado River and solve the mysteries of its 300-mile cañon. They will probably undertake this next season, by boats and rafts from their winter camp on the Green; but they may postpone the adventure still another year, and meantime discover and reveal the mountains and plains of Western Colorado and Eastern Utah, which are so little known.

But the mocking ignorance and fast fascinating reports of course and country of the Colorado ought to hasten them to this interesting field. The maps from Washington, that put down only what is absolutely scientifically known, leave a great blank space here of 300 to 500 miles long and 100 to 200 miles broad. Is any other nation so ignorant of itself? All that we do know goes to show that, beginning with the union of the Grand and Green rivers, the Colorado is confined for 300 miles within perpendicular walls of rock averaging 3,000 feet high, up which no one can climb, down which no one can go, and between which in the river, rapids and falls and furious eddies render passage frightful, certainly dangerous, possibly impossible.

The general conviction of the border population is that whoever dares venture into this cañon will never come out alive. But we have an authentic account this season of a man who made the trip last year and lives to tell the tale. He and a companion, prospecting for gold in southwestern Colorado, and driven by In

dians, took to the Grand River just before its union with the Green, made a raft and committed themselves to the waters. Foaming rapids and a whirlpool swept the companion and all the provisions off, and they were lost, and White, the surviving hero's name, passed seven days more, a second seven days, without food upon these strange waters, between frowning walls, over dangerous rapids, through delaying eddies, before he reached Callville in Arizona, the first settlement and the head of navigation on the river. His entire journey upon the river must have exceeded 500 miles, and he represents that for most of the distance it was through these traditional high walls, impassable as a fortress, a dungeon over a cataract. Nearly all the rivers of Colorado and Utah run for brief distances, from one to twenty-five miles, through these gorges of rock, or they "cañon"—as, by making a verb out of the Spanish noun, the people of the country describe the streams as performing the feat of such rocky passages, where their banks are unapproachable, and trails or roads are sent over or around; but this rock-guarded career of the great river of the interior basin of the continent is the grand cañon of the world, and one of its most wonderful marvels. Its passage in well protected boats by careful navigators can scarcely be deemed impracticable, however dangerous, and the country will await the Powell movement through it with greater interest.

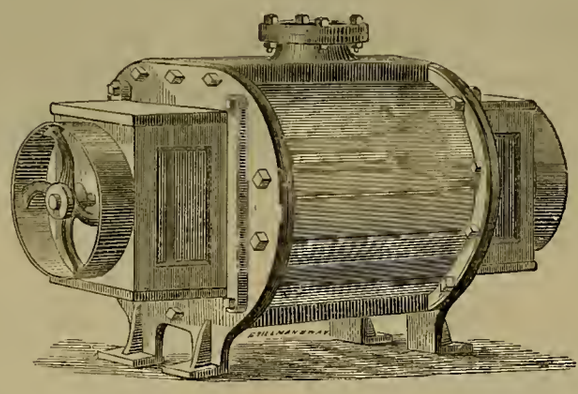
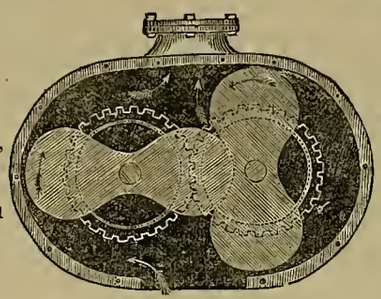
The whole field of observation and inquiry which Prof. Powell has undertaken is more interesting and important than any which lies before our men of science. The wonder is they have neglected it so long. Here are seen the central forces that formed the continent; here more striking studies in physical geography, geology and natural history than are proffered anywhere else. New knowledge and wide honors await those who catalogue and define them. I can but think the inquiry, vast and important as it is, is fortunate in its inquirers. Prof. Powell is well educated, an enthusiast, resolute, a gallant leader, as his other title of Major and an absent arm, won and lost in the war, testify, seemingly well endowed physically and mentally for the arduous work of both body and brains that he has undertaken. He is every way the soul, as he is the purse of the expedition; he leads the way in all danger and difficulty, and his wife, a true helpmeet, and the only woman with the party, is the first to follow.

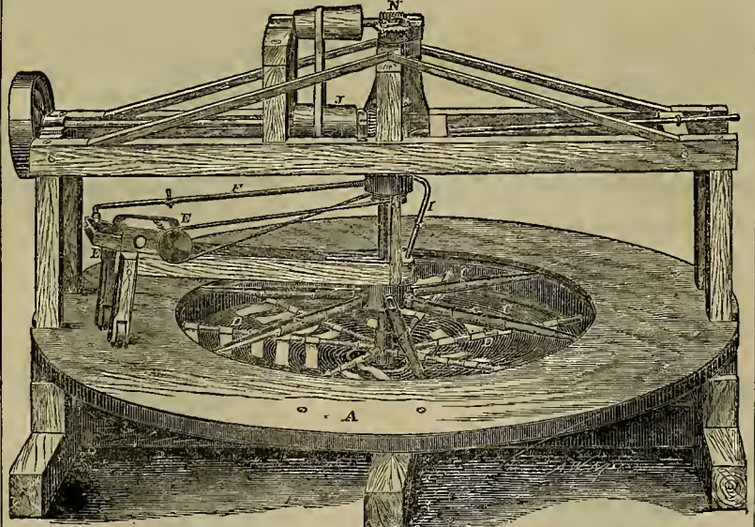
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DUTCH FLAT, Nov. 16th, 1868.

TO THE EDITOR OF THE MINING AND SCIENTIFIC PRESS :—I am requested to write to you concerning matters of interest connected with the mines of this section. Mining at this place is, at present, nearly stopped ; partly from the want of water in hydraulic claims, which will prevent its being resumed until the wet season is fairly set in. There are, however, satisfactory evidences developed here of the existence of an extensive "Blue Lead," running under the center of the divide, which has been prospected in different places, at one of which, known as the Baker Boy's claims, they are busily engaged in the erection of a good cement mill, that will be in running order in a few days. The want of capital and enterprising men is the drawback here, as there is plenty of good ground.

Regarding quartz, there is a lode known as the "Champion," about twelve miles above this place, which, if located in some other districts, would be considered of immense value. It is from eight to ten feet wide, on an average, shows considerable free gold the entire width, and may be traced for miles. On the "Champion" Co's claims they have an open cut of sixty-five feet and a tunnel thirty feet farther, showing great improvement. The rock has paid $45 per ton of free gold in a prospecting mill. The sulphurets are good. About one-fifth of the gross weight of the ore is sulphurets, that assay $225 to the ton.

Our town looks dull at present, but we expect better times than we have ever had if this mill of the Baker Boy's succeeds.

There are a number of drift claims about here, among which is the "Buckeye," that pay well. Between this place and Gold Run the mines are running night and day, a number of which are paying largely. In my next I will particularize.

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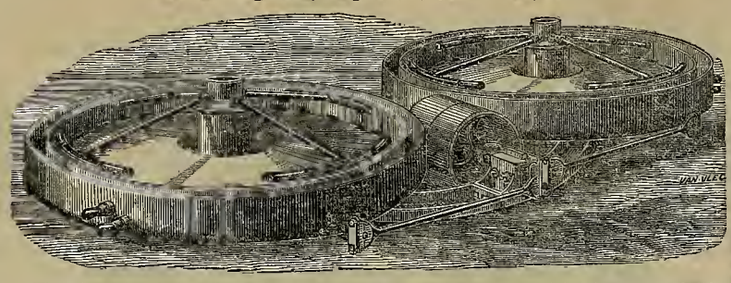
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HUNGERFORD'S IMPROVED CONCENTRATOR,
For Saving Gold, Sulphurets, Quicksilver, etc.



There is no description of machinery of so much importance to the mining interests of California, at the present time, as that for the separation of sulphurets. Many machines have been tried, and abandoned ; and none seems to meet the requirement of the mining interest so well as that now patented by Mr. Hungerford, which is an improvement on the well known Hungerford & Prater Concentrator, with which his name is already so familiar.

RECOMMENDATIONS:

SAN FRANCISCO, October 19th, 1868.

MR. M. HUNGERFORN—*Dear Sir:*—We have had twelve of your Concentrators at work at the Oneida Mine, Amador County, for about six months. They give entire satisfaction. They are strong and substantial, requiring, thus far, no repairs, and do their work thoroughly and effectively. At a recent clean-up of four of them, I found that in four weeks' time we saved about $500 in free gold, besides the sulphurets, or not far from one dollar per ton on the entire crushing of the ten stamps connected with them. In my opinion, it is for the interest of every quartz mill to have your machines. Yours, respectfully, GEORGE PRINGLE, Supt. Oneida Mine.

OFFICE OF THE ONEIDA MINING COMPANY, Jackson, May 13th 1868.

MR. MORGAN HUNGERFORN—*Dear Sir:*—In regard to the four Hungerford Concentrators that I bought of Messrs. Goss & Lambard last month, I will say that I put them up in the Oneida Mill soon after I arrived here, and find that they save sulphurets well and clean, and work to my entire satisfaction. I have tried many other concentrators, but these stand up and work better than any others I have used. I have ordered Messrs. Goss & Lamhard to make eight more for me as soon as possible. Very truly yours, JAMES MORGAN.

BIG OAK FLAT, May 25th, 1868.—*Mr. T. W. Mulford*—Dear Sir:—I have used two of M. Hungerford's Concentrators in the Rattlesnake Quartz Mill, at this place, and find that they work full as well as they are represented to do. E. M. SMITH, Supt.

A full description of the principle and mode of action of this pan, is described in circulars, which will be forwarded to any party who may desire them.

The Hungerford Concentrator has only to be seen to be appreciated. No millman will use any other kind after he has tried that. They are in active operation in mills throughout the State, and give perfect satisfaction.

It should be borne in mind that Mr. Hungerford is the original builder and maker of the celebrated Prater Concentrator, and his name should be sufficient guarantee to warrant the public in examining his new machine before purchasing elsewhere.

In future these Pans will be manufactured by GODNARN & Co., at the Pacific Iron Works, San Francisco, which is a guarantee that they will be built in the most substantial manner.

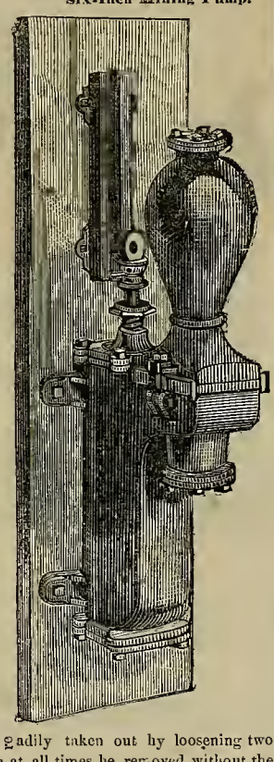
These Pans may be seen at the Pacific Iron Works, First street, near Howard, San Francisco.

Address,
GODDARD & CO., San Francisco.
Or M. HUNGERFORD, at the Pacific Iron Works.

18v17eow

HANSBROW'S CHALLENGE
Deep-Well, Mining and Double-Cylinder Patent Pumps.

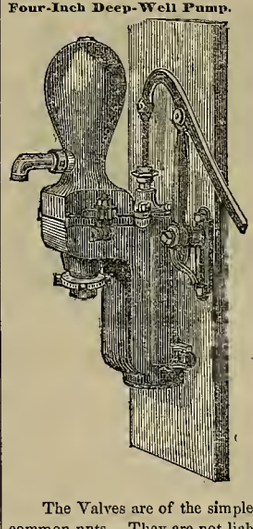
Six-Inch Mining Pump.



These Pumps combine all the advantages of the common Lift and the Double-Acting Suction and Force Pumps, and are equally fitted for all—Household, Farm, Mill, Manufactory, Brewery, Ship, Railway, Mining, and other purposes, and are especially recommended on account of their lightness, compactness, durability, cheapness, and the facility with which they can be placed in any position.

They are adapted for Hand, Steam, Horse, Water, or Wind Power. They are more durable in all their parts than any other Pumps of the same power.

Four-Inch Deep-Well Pump.



The Valves are of the simplest construction, and can be readily taken out by loosening two common nuts. They are not liable to get out of order, and can at all times be removed without the aid of a skillful mechanic.

The lower valves of these Pumps work upon inclined seats, which prevents sand or other matter that the Pumps may take up, from remaining under the valves, or stopping the flow of water.

These Pumps are worked with less friction, and consequently require less power than any other Double-Acting Pumps of equal capacity.

All sizes, from 2-inch to 8-inch Cylinder, manufactured by the Pacific Iron Works, GODDARD & CO., and for sale by the Agents, LOCKE & MONTAGUE,
☞Send for a descriptive Circular. 112 and 114 Battery Street, San Francisco.

W. T. GARRATT,
City
BRASS AND BELL FOUNDER

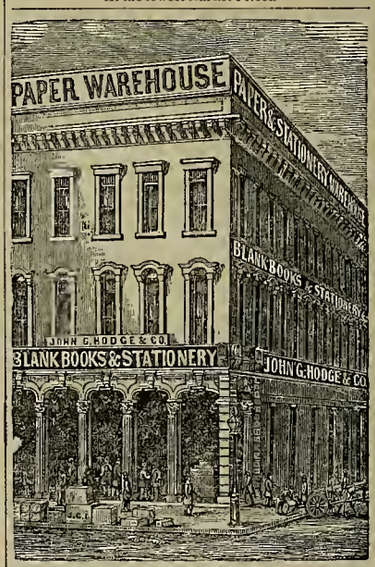


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They have proved themselves to be the most durable and economical Saws in the World.
EACH SAW IS WARRANTED IN EVERY RESPECT.
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Portable & Stationary Saw Mills.
MILLS FURNISHED AT SHORT NOTICE,
At the lowest Market Prices.



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Important to Californians.—Many inventors have lately had their claims for Patents seriously (and in some cases fatally) delayed by the unqualification of agents who have not complied with the Government licenses and revenue laws, as well as other new and imperative regulations. These discrepancies, although arising from the inexperience of honest agents, are none the less dangerous to applicants for patents, whose safest course is to trust their business with none but active and experienced solicitors. THE MINING AND SCIENTIFIC PRESS PATENT AGENCY has strictly complied with the requisitions of the Department, and properly filed all necessary papers as Claim Agents.

MINING AND SCIENTIFIC PRESS.

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A Journal of Useful Arts, Science, and Mining and Mechanical Progress.

BY DEWEY & CO., Patent Solicitors.

SAN FRANCISCO, SATURDAY, DECEMBER 5, 1868.

VOLUME XVII. Number 23.

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MINING SUMMARY—Comprising late intelligence from the various counties and districts in California, Arizona, Colorado, Montana, Nevada, New Mexico
San Francisco Mining Shareholders' Directory.
San Francisco Metal Market
San Francisco Market Rates.
Notices to Correspondents.
Stock Prices—Bid and Asked.
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Fortunes for a Little Knowledge.

Such is the prize now offered, on this coast, for a trifling little idea, trick, device, or notion, whereby our petroleum, such as it is, may be made available for ligbting purposes, or for fuel. There is enough of it; flowing out of itself, by scores of barrels a day, in Santa Barbara County and elsewhere along the coast. But the petroleum dealers inform us that the article is a drug, for the simple reason that it will not burn as brightly, and cannot be refined as cheaply, as the imported price of the Eastern article; and the use of petroleum for fuel has, for some reason or other, not been perfected. At any rate there is no demand for our heavy petroleum, and the tunneling and boring stocks are below par.

It is a simple problem; but the simplest problems are the most difficult to solve until we hit upon the happy idea. "Wet the ropes," said the old sea captain at Rome, when the columu that was to rise would not rise any farther.

We will call the reader's attention, merely to the difference between our oils and the Eastern. Dealers say they are "heavy," *i. e.*, when Baumé's hydrometer, (containing shot in a glass bulb), as put into a body of California petroluem, it does not sink so deeply—the fluid bears it up. The specific gravity of water being 10°, that of crude California petroleum is 18° to 30°, and that of the Eastern 40° to 50°; refined (distilled) California petroleum is 40°, and Eastern 43°. Crude California petroleum yields 45 to 50, while the Eastern yields 75 to 90 per cent. of refined. Here the petroleum comes out in asphaltum springs; there is a baser substance to it; it smokes more easily when burned in an ordinary petroleum lamp. But in its heating capacity the California petroleum has been pronounced superior to the Eastern, notwithstanding which the Foot's Burner Company, which commenced operations at the Ætna Works, does not appear to have been able to create any demand for petroleum.

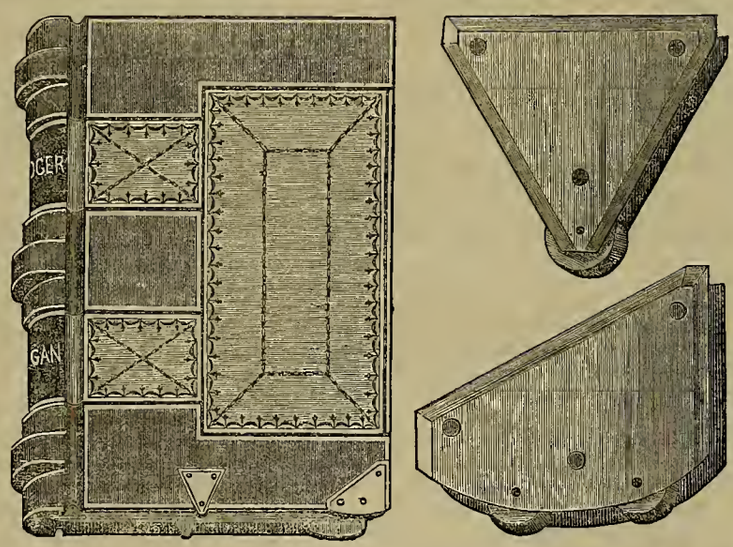
The only use that the Santa Barbara petroleum is now being put to is brick burning, and to make gas, experimentally. Mr. Stott has sent some to Virginia City for that purpose, and Mr. Stanford also furnished some to a gas company of this city; with what results, economically, we are not able as yet to report.

Anti-Friction Book-Rollers.

As it is the cover which first succumbs to time and usage, in heavy books required for frequent reference, Mr. G. G. W. Morgan, of this city, has invented the following very simple appliance, to be bound into the cover, for which a patent has been demanded through the MINING AND SCIENTIFIC PRESS PATENT AGENCY.

These book-cover rollers can be applied before the book is bound and covered with leather, or afterwards, and left exposed—with plain rivets, or with headed rivets, as may suit the taste of the purchaser, and as shown in the accompanying illustrations.

This invention, it is thought, will commend itself to general use, especially where



heavy books are required, as in the offices of the superintendent of streets, county clerks, registers, collectors, assessors, etc. The large engraving represents a book with rollers exposed and in position for use, and the small cuts front and rear rollers.

If we were able to show a full statement of the amount of money paid out annually in the United States for re-binding heavy account and record books, it would doubtless surprise, even those of our readers who are most familiar with the blank-book and stationery trade.

Persons wishing further information concerning this invention, can address the inventor, No. 742 Harrison street, San Francisco.

OVERLAND MONTHLY.—The December number of the *Overland* is out. Everybody that appreciates good literary matter buys it on sight, the price being only three bits, and the articles "timely" to a creditable degree. Four or five articles are invariably met with that furnish acceptable mental food, and the ideas are native to the Pacific slope. Nothing could be more appropriate than to send it to friends in the Atlantic States. The editor, it would seem, has a horror of trashy stories, as few or none run the gauntlet of his approval.

CHILIAN INDUSTRIAL EXHIBITION NEXT APRIL.—This is intended to be an agricultural and industrial exposition of all the North and South American States. An opportunity will be afforded to those who have leisure, or interest in that direction, for note-taking and comparisons concerning the advancement of civilization on the western slope; and we shall for the first time realize how the several Pacific States, from north to south, are bound together by a chain of interest, as well as by a chain of mountains. We have always fraternized agreeably with these westward-looking States,—through our traders, whalers, our mining engineers, gas manufacturers, railroad and telegraph engineers, etc. We are to begin making national acquaintanceship; and our common bearings toward the East and the West, historically as well as industrially, are to be scanned. Not a few live Californians are to be found on the western slope, who will undoubtedly have their dinners, and make their speeches, at Valparaiso. Covarrubios, the President of the Chilian Exposition, informs and requests consuls and the press, as follows:

First.—To make known to manufacturers and mechanics who may propose to take part in the Exposition, that it will open April 1st, next, without fail, and that shipments must be made to Valparaiso without delay, in order to reach there in due time.

Second.—All exhibitors must address their respective Consuls residing in Chili or the President of the National Committee of Chili, via Panama, mentioning the nature of the effects to be forwarded, and, as much as possible, their number and classification and the ground space deemed necessary for exhibition. The last mentioned specification must be made by the next mail after this communication is received, or at furthest by the mail thereafter, in order to make the distribution of space of the Exposition.

Third.—By virtue of a supreme decree, which doubtless has reached you, it has been resolved to pay every person coming to this country from Europe or the United States, the sum of $40, as an aid towards their expenses. Therefore, all workmen sent by manufacturers to manage their apparatus, shall enjoy this same aid,—and owners will be allowed reductions in freight and free importation, and other advantages especially granted with a view to the success of this measure by the Government of this Republic.

Regarding the prospects of this exhibition, the *Bulletin* says:

Californian exhibitors are certain to be received with peculiar friendship, for although some of the citizens of Chili who came here in early times, were not well treated, there are thousands of Chileans who have pleasant recollections of the State, while the recent acts of kindness and the close political sympathy between the two countries would furnish additional reasons for a generous hospitality.

ZINCOGRAPHIC MAP OF SAN JOAQUIN VALLEY.—We acknowledge the receipt from Webster Brothers, an enterprising agricultural implement firm at Stockton, of a circular containing a map of the "great San Joaquin Valley"—their especial field—with engravings of their place of business, and of nine different kinds of gang-plows: the Excelsior, the Dry Adobe, the Adobe King, the Cultivator, the Samson, the Standard, the Nonpareil, and the Eureka, together with a common plow, called the "Clipper." The sheet is copyrighted by O. M. Clayes, of the Stockton *Independent*.

Concerning the map, it is of considerable interest from the fact that it was not engraved, but "zincographed," by a new French process whereby the drawing is made on zinc, with an insoluble ink, and the zinc not covered is then eaten away with acids. Mr. Van de Casteele is the expert in this business in Britton & Rey's lithographic establishment, in this city, where the map was published. While it is evident that an immense saving could be effected by the use of the zincographic process in connection with type, it appears, from the best specimens we have seen,—amongst which this map may be considered,—that the zincographic process is not yet quite a success in San Francisco except for coarse work. Gillot, of Paris, has, however, produced some of the finest specimens of art with it. In time, zincography will become generally known. It will take the place, to a considerable extent, of wood engraving, and will make pictorial illustrations with type as cheap as the type. The impetus that such a discovery may give to the pictorial art, and to the transmission of intelligence by print in newspapers, circulars, etc., can easily be conceived to be of far greater consequence to the world than revolutions, or inventions of a much more imposing character.

TRANSFERRED.—Our esteemed friend Guido Kustel, has transferred his assaying and metallurgical business at No. 611 Commercial street, opposite the Mint, to Leopold Kuh, of Virginia City, who is well known to the miners and millmen with whom he will thus be brought into enlarged connection. The same office was formerly Mr. Molitor's, who has located himself in Montana.

Communications.

In this Department we invite the free discussion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Wintering at White Pine.

Editors Press:—Impelled by the delusive White Pine fever far too many are thoughtlessly rushing thither, at this season of the year, who will encounter such extreme cold and desolation in that elevated region that successful prospecting will be impossible for four or five months hence. I have sojourned and prospected Central and Eastern Nevada, during one summer and two winters, and from my experiences, would warn all from going to White Pine now; at the same time I will endeavor to forearm those who still desire to go in the spring. During the winter of 1866-7, I was employed in the examination of seven mining properties situated in various districts of Humboldt County, Nevada, and although they were all located in the low foot-hills,—and it was considered an unusually mild season,—I had to await the more favorable thawings, during several months, before I could report upon them. The winter of 1867-8 was more severe, and prevented all examinations of the ledges whose positions were known, and rendered prospecting impossible, even in this comparatively well grassed and wooded country. To show this more palpably, I may say that the Humboldt River was frozen over to a depth of from twelve to eighteen inches, and the alkaline flats were covered with snow for nearly two months; the thermometer sunk to from 10° to 17° below the freezing point, nightly, and in the house where I had to hibernate, it was necessary to take my boots abed to keep them supple for morning. I would not be misunderstood as to the climate, for I believe it to be the most healthy in the world; but such low temperature freezes extremities, conceals the ground, and by covering grass and ledges alike, it renders all explorations most unpleasant and unprofitable, even to those who are inured to the life of a savage. White Pine District is at a much greater altitude than this, and being some hundreds of miles farther in the interior, and farther from supplies, it must be very deficient for the accommodation of such an influx of population.

Admitting that these irregular pockets are but one-tenth as numerous and valuable as they are said to be, and that many poor men will become rich thereby, (if not sufficiently extensive for large companies) I would in sober earnestness ask the question of many now talking of going, if they really know the extraordinary hazards and number of blanks that there are for one prize?

Three thousand men are said to be there, who have prospected this region during the summer and autumn, with an enthusiasm eminently suitable for the work, and being practiced in prospecting, they have located all that was *exposed* or *supposed*, good, bad, and indifferent. These veteran prospectors will start forward in the early spring, and knowing what has been already examined, will explore new ground, and continue to locate claims, in advance of the uninitiated and less experienced. The history of mining has shown that great riches lie far apart, and that a good mine has been often the means of scattering more money in its vicinity than has been realized therefrom.

For the above reasons it is very probable that ninety-nine of the hundred who are now going to White Pine, will return poorer than they went, so far as mineral locations will profit them; although they may be benefited from merchandize, or from wages, for work performed for others; so that they must practice the most rigid economy to maintain them longer, and end with the least possible loss, should they be unfortunate. With this in view, you should take a small frying pan, coffee pot, tin cup, knife, fork and spoon, so as to make your bread and cook your food in such various ways as necessity will dictate, from such limited staples as flour, bacon, beans, coffee, pepper and salt. On arriving there, you will do well to follow the instincts of burrowing animals, and select a sandy slope for your camp, wherein you can dig a suitable hole for your sleeping accomodations, in close proximity to sage or grease bush, for making fire to warm your poor feet, etc., while you repeat the prospector's philosophic motto, "What can't be cured, must be endured."

If during your first sleep in this primeval manner, a clamorous coyote, scenting your provisons should dispute your title and jump your claim, by informing him with a bold front and in a *stentorian* voice, that you had worked your assessment according to law, he should, and probably would depart; but failing in this, you may enforce it with your rifle or six-shooter. This manner of living is imperatively necessary for greater economy and proximity to your ever-varying labors; you can thus board yourself a week for what you would have to pay for one day at the inferior restaurants, and by the aid of three thick California blankets and a little brushwood under you, you will be comparatively comfortable. I have seen many fine fellows in such positions in that country, and I would that all such noble hearts should become as exalted as they were thus humbled. In conclusion, I would caution you against wasting your time on the igneous (porous rock) mountains; as I have observed there, as elsewhere, that minerals are found in primitive, transition, and secondary strata, and near their junctions.

In that region, the uplifted clay slate, and lime rock foot-hill patches, have generally produced mineral. A belt of ground lies unexplored before breast of the railway, as it advances toward the Rocky Mountains, that affords greater allurements for an energetic corps of prospectors, than anywhere in that country. This also applies to those who are approaching on their eastern slope, through the secondaries, at the head water declivities of the Atlantic rivers.

J. S. Phillips, M. E.

San Francisco, Nov. 30th, 1868.

[Written for the Mining and Scientific Press.]

The Water-Decomposing Roasting Furnace.

The Hagan Water-Burner, for desulphurizing mineral ores, is about to have another trial at a mine near Angels, Calaveras County.

The patentees are full of confidence that ores, in lumps of battery size, can be completely freed from all base elements, such as sulphur, arsenic and antimony, by their process, and at a cost not exceeding a dollar a ton.

The ordinary roasting does not get the sulphur out, unless the ore is reduced to coarse powder before heat is applied. But it is claimed that the Hagan method does eliminate the sulphur. It is claimed that the water injected upon a small fire, in the form of steam, highly dried by superheating, is decomposed; that the hydrogen set free becomes fuel,—thus saving wood. It is said that all of the hydrogen is not burned; that part of it escapes the flame and combines with the sulphur, going off as sulphureted hydrogen.

As we understand it, this hydrogen is supposed to have the power of penetrating the mass of rock and of reaching and bringing out the sulphur, which ordinary roasting can not do. The oxygen liberated from the water, is supposed to go in part to the wood fire from which air is excluded, and thus the fire is kept up; a part goes to the hydrogen, which would also not burn without it, and a part combines with the iron in the pipes, which, in fact, give proof of it by being rapidly consumed. To lessen this costly destruction, cast iron pipes are being substituted for wrought iron. These iron pipes receive the steam; they are kept at a high heat inside of the kiln, and the steam thus superheated exudes through small perforations, and is caught by the fire and finally decomposed. Hitherto complete decomposition of water has never been effected, except at great and impractical cost. It is a common practice to inject steam upon a fire to enliven the flame, and a small quantity is decomposed, sufficient to produce some slight effect, but it is of little practicable advantage. Sulphur is itself good fuel, and when in great quantity, very little additional fuel is required for ordinary roasting. It is to be hoped that the experiments at Angels will be watched very closely, that the doubts may be removed, which all former trials have left upon the minds of competent investigators. The last experiments at the Enterprise mine, near Cisco, have not entirely satisfied the officers of the company that the process is likely to be of the great benefit to our mining interest, which the patentees confidently predict. Every pains should therefore be taken by the proprietors of the mine to aid in close investigation, and to make public the chemistry of the process, which is not very clear to science, as it is set forth. Miners will not be content with certificates from interested parties, nor from secretaries who have not been present during the experiments.

We make these remarks in the interest of the pateutees, as well as of the mining public. It will be an injury to all interests to add another not fully convincing experiment, while absolute proof and convictiou will bring certain fortune to the patentees, and national benefit to the mining interest.

Grass Valley.

[Written for the Mining and Scientific Press.]

Mining in Plumas County.

THE INDIAN VALLEY MINE AND MILLS.

This property is situated in Indian Valley, Plumas County, belonging mostly to L. L. Treadwell, of San Francisco, and a very small part of it to John N. Blood, Superintendent of the mine and mills. The ledge was opened by J. Watherworth, and the claim is undoubtedly on the same vein as that on which the Crescent mine is located. The Indian Valley mine is N.W. of the Crescent; between both mines are some other locations on the same vein, viz, those of Charles Callahan and the Pennsylvania mine, both of which have been worked thus far with good results. On the N. W. side of the Indian Valley mine, on the same vein, is another location, the Union, belonging to H. Bidwell, but work is stopped, as the ledge was found much broken up, and containing no paying ore. The Indian Valley mine is opened by a perpendicular shaft 320 feet deep on the vein, and sunk on a chimney of pay ore. The width of this chimney is fully twenty feet, and it was from the surface to about 250 feet down from fifty to sixty feet wide; going deeper, this chimney runs very narrow, so that stopes on both sides had to be abandoned as the ore was not paying. The company keeps on sinking, but gets not more than from $4 to $5 a ton paying ore from the shaft at the present time. Their clean ups have been, since last spring, very small, only amounting to about $500 a week, with their 20-stamp mill. Last summer this company had always from $1,500 to $3,000 per week. A tunnel on the level of the upper mill has been run, and a drift made on the vein towards the shaft, but no paying ore was found. The company is now running, from this tunnel, another drift on the vein in the opposite direction, towards the east, hoping to find pay ore before they come to the boundary line of their claim. This drift is in about 300 feet, and in about 200 feet more they will reach the end of the company's claim. To all appearance they will not find any pay ore; the prospects of the company look certainly not flattering. The hoisting works on the top of the claim are new, and in good condition; the upper mill, of twenty stamps, in four batteries, is old and without any modern improvements, having only copper plates in the batteries, and in front of the same, blankets, but no arrangements to work the blanket-washings. The lower mill, of twelve stamps, formerly belonging to the Pennsylvania Company, is standing still since last spring, the Indian Valley Company having no quartz to keep both mills running.

THE NEW YORK QUARTZ MINING COMPANY.

This property is situated N.E. of the Indian Valley mine, in Indian Valley, Plumas County. The ledge was discovered some years ago by the Kitts Brothers, and through their agent, N. Wescoatt, was sold to a New York Company for $20,000. This company appointed N. Wescoatt, Superintendent, built a mill of twelve stamps, worked by water-power, and started work at the mill last fall. But soon it appeared that the ledge was not continuing, or at least that under Wescoatt's management no quartz could be found to keep the mill in supply. Wescoatt was superseded by Col. Perkins, sent out by the New York Company, and although work was still kept on to find the ledge or to find quartz at least, it was done without any favorable results, and to all appearance the New York Company will have to give up prospecting, and to add another idle standing mill to the many that are situated in the mining claims in California, which were started either unreasonably, or by incompetent parties, and which remain as constant causes of the distrust which is entertained by eastern capitalists of California mining enterprises. Both parties are to be blamed, and not the mines.

THE CALEDONIA MINE AND MILL.

This property is situated at Cherokee, Plumas County. It is the N.W. extension of the Kittle ledge, and adjoining the works of Fudkins & Kellogg. The Caledonia belongs to H. Bidwell, and some parties in San Francisco. The mine is opened by a shaft 150 feet deep. The company is working at the same time on another ledge called the Dunlap, running parallel with the Caledonia, but dipping in such a way that the supposition is that both ledges will meet at a certain depth, or prove to be the same ledge, which is split on the surface. The ore shows as well as in the neighboring claim, the Kittle, and a few days ago the Caledonia Company found some rich ore in both their ledges, promising to pay $15 per ton. The company last year erected a splendid new mill of twelve stamps, running with steam-power, and they kept the same constantly running on good pay ore.

THE ENTERPRISE MINE

is in Light's Cañon, Indian Valley, Plumas County. This ledge was discovered last summer by Mr. Wilmot, now Superintendent of the works. The property belongs mainly to O. D. Squires, cashier of the Pacific Bank, San Francisco. Regular work was commenced last spring, by sinking a shaft twenty feet deep on the ledge, which varies in width from two to twenty feet. Some samples of ore were worked in San Francisco, and the rich yield induced the owner to have a mill erected, which will be finished and in working order sometime next month. The most remarkable feature about the whole concern is the new style of mill arrangement. The working power is water, and the quartz is crushed, not by stamps, but by Wheeler's Crusher, and worked in Stewart's pan. The working capacity of the Wheeler Crusher is twenty tons, and the capacity of the pan from five to ten tons per day. There is no other quartz mine in the vicinity, but there are some gravel claims. The location is about eight miles N.E. from Taylorsville.

THE ELLIS MINE

is situated in Round Valley, Plumas County. It was opened in 1861, and worked for three and one-half to four years, paying very well all the time; but the company ran into poor rock, and finally quit work, the mine lying idle for some years. Alsop and Charles Rodgers commenced lately some prospecting work. They take the quartz to the old Dixie mill in Dixie Cañon, and they have succeeded in finding rock paying from $15 to $16 per ton.

F. B. S.

A Railway Train Destroyed by Nitro-glycerine.—Ten cars were burned and the locomotive and four cars demolished by an explosion near Urbana, Ohio, on the 29th of Sept. The car nearest the engine contained a quantity of nitro-glycerine, which had been smuggled on board, and this exploded, shattering the locomotive and four freight cars, and setting fire to the remainder of the train. A house, a quarter of a mile from the track was nearly demolished. An iron rail was thrown 300 yards from its bed, and bent like a piece of wire. Timbers flew in every direction, and the telegraph wires were thrown down a long distance from the train. The report was heard thirty miles. No one but the engineer was seriously hurt.

Steaming to the North Pole.—The last reports from the Swedish and German North Pole expeditions, is to the effect that ice barriers have been encountered, which retard their progress. The Swedish vessel is a steamer, and a supply of coal is laid up for it on the island of Spitzbergen. Seal hunting has been profitably carried on for some years in those waters by the Norwegians in steamboats. More is to be hoped, therefore, from the Swedish expedition, than from that of any other nationality.

Mechanical.

Cast and Wrought Iron for Building.—The following is from an article upon fireproof buildings, in the New York correspondence of the *Journal of the Franklin Institute:* Since a very recent date, solid rolled beams of wrought iron have been used for floor joists; before which time cast iron beams had been largely used, especially in England. Many accidents proved their unreliability, and beams built of plates and angle irons were substituted. In this country, the Cooper Institute was the first thoroughly fire-proof building ever built, the beams for which were rolled at Trenton. These beams were nine inches deep, and were rolled from a single "pile," and were necessarily about the largest beams that could be made by that method of piling. Not long after, Mr. John Griffin, of the Phœnix Iron Co., invented and patented a plan by which beams could be solidly rolled up to at least twenty inches deep, and as long as would in any event be required. Mr. Griffin's invention consisted in rolling flange-bars separately, piling the plates to form the web between them, and then rolling and welding the whole mass together. It may be interesting to note that this process was pirated by the English manufacturers, and is in vogue with them to this day. The supports for beams and girders have been always cast iron columns; but the wrought iron hollow columns are gradually being appreciated. Cast iron columns, when overheated, become as brittle as glass, and shiver, like glass, to atoms, should water be thrown upon them. Such columns will stand no great tension, or any unequal straining, and ought to give place to wrought iron ones, especially in warehouses or other buildings used for general storage purposes.

Solar Heat as a Source of Power.—M. Mouchot, professor of mathematics at the Lycenm of Tours, claims credit for the discovery before M. Ericsson had achieved the development of his ideas on this subject. He states that he constructed receptacles in which the solar heat might accumulate like the water of a running stream at a weir or barrier. For this purpose he took a metallic vessel of suitable form, and, after having blackened the outside, placed it on some sand, brick, or other imperfectly conducting material. He then covered it with a glass lid and presented it to the sun's rays, projecting into it from behind a considerable increase of heat by means of a metallic mirror. If the metallic reservoir be empty, it is easy to produce therein in less than half an hour the temperature of 200°. M. Mouchot, in 1861, thus caused water to boil, and the French Emperor himself, at Biarritz in 1866, made successful experiments with a small steam engine provided with a solar boiler or heating apparatus. The French rival of M. Ericsson asserts that he has at different times cooked meat and vegetables, baked bread, and distilled brandy by his process, and that he can adapt it to steam or hot-air engines. He is about to publish a work on the subject.

Carbon in Cast Iron.—At the Cleveland Literary and Philosophical Society (Middlesborough) meeting, recently, Mr. Crossley read a paper on the condition in which carbon occurs in cast iron. Mr. Crossley maintained that the commonly received idea that carbon occurs in an uncombined form in gray pig-iron and combined in white, is erroneous. He was of opinion that carbon occurs only in combination in both; as a gray carbide in grey iron, and a white carbide in white iron.—*London Mining Journal for October.*

Glass and Copper Compound.—A German editor says water glass and copper, when melted together can be cast or wrought under the hammer and rolled; making a new metallic substance of an orange hue, and so hard that a file will not scratch it. It is translucent, and capable of being wrought into beautiful ornaments.

Rock-Channeling Machine.—The Claremont (N. H.) *Eagle* describes a machine recently constructed in that town. It consists of a combination of six rotary drills pointed with black diamonds. The first trial was made with a block of Ohio grindstone-rock several feet in thickness. This block was cut completely across in thirty minutes, the drills passing down at the rate of six inches per minute. Grindstone rock is particularly refractory under the old system, the coarse fiber of the stone making havoc with the most carefully tempered edges of steel tools. The diamonds are so arranged that a ring is cut round a core, the latter being an inch in diameter, so that quite an assortment of good round whetstones were distributed among the lookers-on. A huge boulder was next bored; the "time" being two and one-half inches per minute. An examination of the cores revealed the ugly nature of the specimen—a very toughly conglomerated mass of flint-rock and quartz with granite base. The surface of the cores, however, presented as smooth and even an appearance as if turned in a lathe. A critical examination of the drill-heads detected no appearance of wear upon the exposed surfaces of the diamonds, or failure in the settings.

Oil Painting upon Zinc.—Prof. Boëttger has recently published a process consisting in the previous application, by means of a hard brush, of a mordant, composed of one part of chloride of copper, one part of nitrate of copper, one part of sal ammoniac, and sixty-four parts of water, to which is afterwards added one part of hydro-chloric acid. The zinc turns of a deep black immediately after the application, changing after drying (12 to 24 hours) to a dirty black grayish-white shade, upon which any oil-color, once applied, will adhere with the greatest tenacity.

To free Mines and Sewers from Foul Air.—We clip the following from the *Colliery Guardian:* Mr. Robert Smith submits the following process for extracting foul air or gases from mines, sewers, brewers' vats, and other places where foul air is liable to accumulate. It consists in attaching one or more pairs of bellows to the end of a pipe or pipes, the other end of which is in communication with the accumulated gas. The lower end of the pipe may be flexible, communicating with the foul air or gas, the upper end being attached to the inlet valve of the bellows. The bellows may be operated by manual or other power.

Railroad-car Axles.—A recent American invention is for making new axles, or repairing old ones, by bringing the ends to a welding heat, and casting over each a steel shell or outer covering by running the molten metal into a mold surrounding the end of the axle to an extent and of a size and shape necessary to form the journal, the steel becoming by a state of fusion incorporated with or welded into or on to the drawn or reduced heated end of the wrought-iron axle, after which the union may be more firmly established by hammering.

Steel from Poor Ores.—The Heaton process, which we have already noticed in the Press, is attracting especial attention in England. Prof. Miller, of King's College, recently reported favorably upon it, after witnessing the operation and making analyses of samples of the materials used and the steel produced. This is the method in which a mixture of nitrate of soda and silicious sand is introduced first into the "converter" and covered with a perforated cast-iron plate, and the molten pig then poured in.

New Submarine Lamp.—The London *Artizan* describes a new lamp invented by M. Cretin. It is furnished with supply and escape tubes of air, in the same manner as an ordinary diving dress; and in fact the same tubes serve for both the diver and the lamp. Gas, condensed in iron cylinders, is used as the combustible. A small fan, set in action by clock work, keeps up the draft and drives out the contaminated air.

Scientific Miscellany.

The Eclipse.

One of the scientific expeditions for the purpose of making observations on the great total eclipse of the sun in August last, was sent out by the North German States, and was under the direction of Dr. Vogel. They took up a position in the Arabian Sea, off Aden. The doctor gives an account of the proceedings, which we condense as follows: "On the day of the eclipse we rose at four o'clock in the morning. It was the task of the expedition to make a photographic view of the eclipse during its totality. For this purpose we had a long telescope with a lens of six inches, without difference of focus, and with a focal distance of six feet. This lens afforded a solar image of three-quarters of an inch in diameter, which was taken upon a photographic plate by means of an ordinary sliding chest for two images.

The totality at Aden was about three minutes,—in India five minutes long;—we had chosen Aden for our station because there were already photographic observers in India, and because the totality appeared at Aden about an hour earlier than in India. Therefore a comparison of the different results would enable us to decide the question, whether the *protuberances* appearing at a total eclipse of the sun were changing in the course of time or not. We had previously exercised ourselves in the handling of the telescope,—like artillerymen with their guns,—and found it possible to get three plates, of two images each, within three minutes. Dr. Fritsche prepared the plates, Dr. Zenker put the sliding chests into the telescope, Dr. Theill exposed, and I developed. When the decisive moment was advancing, the sky, hitherto covered with clouds, showed some openings, through which the sun, already covered partially by the moon, was to be seen. The landscape around was illuminated by the strangest light,—a medium between moon and sun light. The sun crescent became smaller and smaller, and the opening in the clouds seemed to increase. The last minutes before the totality (which began at twenty minutes past six o'clock) went rapidly. Our work began; we exposed the first plate; I poured the iron developer over it, eager to know what was to come. And now I saw the image of the sun appearing. Its dark margin was surrounded by a series of peculiar elevations, the other side showed a strange hook; the phenomenon being exactly the same in both views. My joy was great, but there was no time for enjoyment. I soon received the second, and, after another minute, the third plate. 'The sun is coming forth!' exclaimed Dr. Zenker. The totality was over. All this seemed to have been done in a moment.

When I developed the second plate I perceived only very weak traces of an image. The clouds had veiled the sun at the very moment of the exposure. The third plate gave two brilliant views, with protuberances at the lower margin. Glad to have obtained so much, we washed, fixed, and varnished the plates, and immediately took copies on glass, to be dispatched to Europe separately."

Interesting Experiment.—We clip the following from the *Colliery Guardian* of Oct. 17th: "At Forres, the ordnance survey officers have discovered an extraordinary deflection of the plumb line. There are no mountains near to cause this, and it is believed that there is a mass of unusually solid matter beneath the surface at Forres, or else a large cavity in the sea, which is not far distant. To ascertain this, two clocks are to be placed east and west, one at Forres, the other 40 miles distant; by the side of each clock there will be a magnet, connected with the opposite clock by an electric wire. The magnet will be made to click, so as to mark the vibrations of the pendulums of the distant clock, and the differences in the vibrations of the pendulums will reveal the force and direction of the deflection of the plumb line."

Cast-iron Stoves, again.—We have already alluded to the experiments of MM. Trorst and Deville as proving that cast iron at a certain heat became pervious to gas. They have shown that the air surrounding a stove so heated is saturated with hydrogen and oxide of carbon. General Morin has recently brought up the subject again before the French Academy of Sciences; and in corroboration of the theory of the above named gentlemen, he related some experiments performed by M. Carret. Thus, after having remained during one full hour in a room heated to 40° (centigrade) by means of a sheet-iron stove, M Carret perspired abundantly, got a good appetite, but felt no sickness whatever; he had obtained the same result with an earthenware stove; but the experiment, when performed during only one-half hour with a cast iron stove, had brought on intense headache and sickness. M. Deville, at the same sitting of the Academy, supported these views with warmth. The danger which attended the use of cast iron stoves, he said, was truly formidable. In his lecture room at the Sorbonne he had placed two electric bells, which would be set in motion as soon as hydrogen or oxide of carbon was diffused in the room; the two cast iron stoves had scarcely been lit when the bells began to ring.

The Source of Light in Flame.—Prof. Frankland delivered a lecture in June last before the Royal Institution, in which he showed the fallacy of the commonly received opinion that all artificial light was due to the ignition of solid matter. We have before alluded to the lecture; we give here a part of the concluding portion: "It is to the behavior of hydrocarbons under the influence of heat, that we must look for the source of luminosity in a gas flame. These gradually lose hydrogen, whilst their carbon atoms coalesce to form compounds of greater complexity, and consequently of greater vapor density. Thus marsh-gas (CH^4) becomes acetylene (C^2H^2), and the density increases from 8 to 13. Again, olefiant gas (C^2H^4) forms naphthaline ($C_{10}H^8$), when the vapor density augments from 14 to 64. These are some of the dense hydrocarbons which are known to exist in a gas flame, but there are doubtless others still more dense; pitch, for instance, must consist of the condensed vapors of such heavy hydrocarbons, for it distills over from the retorts in the process of gas-making. Candle flames are similarly constituted. The direct dependence of the luminosity of gas and candle flames upon atmospheric pressure also strongly confirms the view that the light of these flames is due to incandescent dense vapors.'

Oxygen from Atmospheric Air.—M. Mallet has devised the following mode of preparing oxygen gas from the air: Subchloride of copper absorbs the gas, and is changed into an oxychloride, which, when heated to 400° Cent., gives off its oxygen and is reconverted into the subchloride. He places this copper salt in a horizontal retort which can be rotated, mixed in sand or clay to prevent its melting together. A gentle heat is applied to the rotating vessel and the gas collected. One kilog. of chloride furnishes 28 to 30 litres of oxygen. A stream of air is then passed through the retort, and in three hours its contents can again be heated.—*London Artizan.*

Thymic Acid.—This acid, obtained from the essential oil of thyme, has been proposed as a succedaneum of carbolic acid or creosote. It emits no disagreeable smell, and is powerfully antiseptic. Its composition is $C^{20}H^{14}O^2$. In a concentrated form it may take the place of nitrate of silver; and, as an antiseptic, it should be dissolved in 1,000 parts of water, with the addition of a little alcohol.

Organisms in the Human Blood.—Dr. Richardson, of Union Springs, N. Y., has arrived at the conclusion that living organisms in decomposing beef tea, when ingested, may enter the circulation and increase there. He bases his belief upon experiments made on himself, by microscopic examination of his blood at intervals after taking four ounces of beef liquid, which, according to his calculation, contained 27,000,000,000 of living organisms.

A Noted Horn Silver Deposit in Chili, Resembling White Pine.

THE HILL OF CHANARCILLO.

The extracts below are taken from an article entitled "The Geology and Mineral Veins of the Hill of Chañarcillo, Chili, by Edward B. Dorsey, M. E.," (published in Blake's Mining Magazine, p. 102, 1860) and will afford data for comparison with, and for judgement concerning the future of Treasure Hill, White Pine. Accompanying the article in question is a section along the great metalliferous vein of the hill, showing simply a series of alternating limestone and eruptive strata; both of which were necessarily deposited at the bottom of an ocean, the latter as successive submarine lava flows, which were separated by periods of limestone formation, under circumstances very similar to those attending the Derbyshire interstratification of dolomitic limestone and trap, or toadstone, described in the PRESS of Nov. 7th. The principal vein represented by the section, being a true fissure, had been worked to a depth of 1,600 feet, and over two miles in length. It had chlorides near the surface, sulphurets below; and was not affected in passing through the porphyry; but mention is made of a set of little segregated veins, two inches to two feet in width, of different dip and strike, which could not be traced in the porphyry.

In several of the upper of the dolomitic limestone strata, floors or beds, and stockwerks of horn silver of immense extent and value, had been deposited horizontally to a considerable distance, evidently by infiltration from the great central vein. The rich limestone stratum was about thirty feet in thickness. Mining was done on the coal and stockwerk principle, and when the ore had been extracted, the hill was allowed to cave. Mr. Dorsey says:

The principal silver districts of Chili, are Chañarcillo, Agua Amarga, and Tres Puntas; all are situated in the limestone formation of group 2.

Chañarcillo has been, as it is still, the most important and richest. It is situated about fifty miles from the ocean, forming the southwest extremity or terminus of a spur of hills, that runs from the coast range in a S.W. direction, having on each side wide valleys, which bear unmistakable evidence of having been large water courses at no remote period, though they are now dry. The valleys unite 2½ miles to the south of the hill of Chañarcillo, forming the northern end of the plain that extends south to the river of Huasco.

The summit of the hill (Candelaria Mine) is 1,000 feet above the level of the valleys, and 3,952 feet above the sea. The spur or ridge of which this hill is the terminus, gradually rises in hight until it attains its maximum of 5,600 feet above the sea, at a distance of twelve miles from this place.

As will be seen by the sections and specimens, this hill, as far as explored, is composed of nine primary strata, each of which is subdivided into many secondary ones, with an average dip of 11 per cent., from the N. E. to S. W., which is also the direction of the veins. The section is made from data taken from the workings on the principal vein, and the only true or fissure vein in the hill.

The strata occur in the following order, commencing at the surface:

A. Limestone, very broken, with many crevices that are filled with crystals of carbonate of lime, and a chalky argillaceous earth: the veins in this have not been productive; average thickness, ninety feet.

B. Metalliferous brecciated strata of limestone, cemented together by carbonate of limo, crystallized, or in loose powder united with argillaceous matter. This heaves or displaces the veins horizontally about fifty feet to the west—that is, the part of the vein that is below the strata, is that distance to the west of the superior part. This has the character of the stockwerk deposits of the Germans, being crossed by numerous small veins in every direction; the majority and richest, however, have a N. E. and S. W. direction. The ore from this stratum, after being assorted by hand, seldom yields above .0015 per cent. of silver. Thickness, forty feet.

C. Blue limestone—dolomite. This is the most productive stratum of Chañarcillo, having produced .75 per cent. of the gross product. Some of the secondary strata of this are much more productive than others, for which no rule can be established. Thickness, 500 feet.

D. Porphyry,	Average thickness	230 feet.
E. Limestone,	" "	100 "
F. Porphyry,	" "	490 "
H. Limestone,	" "	90 "
H. Porphyry,	" "	100 "
I. Limestone,	Thickness thus far,	110 "

The deepest working in the hill is at present in this stratum, (I) the vein yielding very rich ore.

The principal vein has been productive in all the limestone strata, though the yield has decreased as the depth increased.

The strata called limestone are composed of carbonate of lime, carbonate of magnesia, and argillaceous matter in very variable proportions, forming generally an argillaceous dolomite.

The most usual ores of silver found above the first porphyry stratum are, bromide of silver, chloride of silver, chloro-bromide of silver, and native silver; below it, the simple and compound sulphurets, arsenical silver, and native silver. Iodide of silver has been found in small quantities.

In the superior strata, the gangue is generally crystallized and massive carbonate of lime and peroxide of iron, forming a calcareous-ferruginous mass, in which the ore is found in laminæ, crystals, or disseminated through the mass. In the inferior strata, the peroxide of iron is generally replaced by the sulphuret of iron and arsenic.

Galena and blende are rare, and generally poor, even when found in contact with rich ore.

Quartz and sulphate of barytes are also rare and seldom found with silver; they are regarded as unfavorable signs.

Native amalgam has been rarely found, and no gold or copper.

The quality and quantity of the silver ore varies very much, in some cases yielding 90 per cent. of pure silver, while the present average is not above 1 per cent. Ten years ago, a mass of chloro-bromide of silver and native silver was found near the summit of the hill (at the depth of 100 feet) that weighed about 45,000 pounds, yielding 75 per cent. of pure silver.

The mines are perfectly dry; occasionally a small stream is found leading from cavities or other deposits of water, which ceases as soon as they become drained.

The silver has been deposited, or at least a part of it, in the veins at a comparatively recent date, subsequent to the origin of the slides and faults, they being frequently impregnated with silver. Moreover, chloride of silver, bromide of silver, chloro-bromide of silver, and native silver, are very often found encrusting and being encrusted by crystals of carbonate of lime, bearing unmistakable evidence of having been produced by causes that are still in operation.

Chañarcillo was discovered in 1832; since then about 300 mines have been worked, producing a total of $60,000,000, nineteen-twentieths of which have been produced by twenty-five mines. At the present time, seventy-eight mines are worked, employing 1,200 men, producing monthly 12,000 quintals (1,200,000 pounds), or 8,000 pounds of pure silver.

The yield has decreased very much lately, and will probably decrease much more, as there remains but little ground to explore in the upper limestone strata, where the segregated veins have been the most productive—in fact, many that have been very rich in this stratum, have been entirely unproductive in the lower strata.

My experience in the hill of Chañarcillo enables me to make the following general deductions; which, however, are only *applicable to this particular district:*

The same stratum has the same effect on different veins—that is, if one vein is rich, there is a great probability of others being so, passing the same stratum.

The same cross-vein has different effects upon different veins.

After passing a certain nominal depth, the veins become less productive in proportion as the depth increases.

The productive veins run from S. W. to N. E., with underlay to the west.

The veins have been generally richer near the faults.

The veins have never yielded any silver in the porphyry strata.

MONTHLY COMMERCIAL RECORD AND BUSINESS DIRECTORY.—F. R. Voight, of No. 33 Merchants' Exchange, publishes monthly a pamphlet of seventy-two pages, containing a considerable amount of information valuable for reference, relating to business, transportation, traveling, etc.

CONTINENTAL Life Insurance Company, 302 Montgomery street, corner of Pine.

Engineering.

[Written for the Mining and Scientific Press.]

N. Y. Society of Practical Engineering.

ON RAILROAD ACCIDENTS.

This Society held its regular fortnightly meeting at room No. 24, Cooper Institute, on the evening of Nov. 10th, the President, James A. Whitney, in the Chair, when the regular subject of the evening—"Railroad Accidents, their Causes and Remedy"—was taken up, and an elaborate paper was read by Dr. A. W. Hall.

After a few introductory remarks relative to the origin of the steam engine and the wonders it had achieved, he proceeded to a classification of railroad accidents, and to point out the most obvious means of guarding against them.

All that class of accidents resulting from the carelessness of the employés of the road, such as misplaced switches, open drawbridges, etc., he characterized as no better than manslaughter where they resulted fatally, and the only remedy was for courts and juries so to convict, as a warning to others, and by finding the highest exemplary damages against such companies it would be very apt to secure in the future a selection of more careful and competent men for such important places.

He then passed to the subject of collisions, such as direct, where locomotives meet, and indirect, where a following locomotive collides with a rear passenger car. He arrives at the conclusion that no collision need ever occur, aside from criminal carelessness of those in charge of the trains, where there were accurate time-pieces, a perfect time-table, a well-understood set of signals, and a telegraph office at every station.

The class of accidents known as obstructions on the track, such as horses, cattle, trees, rocks, etc., was next analyzed, and the penny-wise and pound foolish policy of companies neglecting to fence in their roads to save expense, was alluded to in no very flattering terms; and he referred to companies leaving trees and overhanging boulders in close proximity to the track, and when they fall and cause a smash-up to throw the blame on the Almighty for not suspending the law of gravitation. He argued that the only safeguard was a perfect system of brakes under the direct control of the engineer, to be instantly applied by the force of steam to the entire train; as he was the first to see the danger, he should have it in his power to apply the remedy, and he referred to the improved calcium head-light for locomotives to aid in discovering obstructions in the night time, so as to check the train in time to avoid danger.

The breaking of axles of locomotives and cars was then alluded to, and the writer asserted that, as strange as it might appear, there was no device in use on any road for proving these axles and testing their soundness, and that it was impossible to know if the driving axle was broken half off directly inside the driving wheel, as its position rendered it impossible for it to be seen; and he condemned the engineering skill of the road that would run such daily risks from flawed axle, when a simple testing device could be so easily constructed.

The burning of human beings alive in our fashionable wooden tinder-boxes, called cars, was severely criticised, and the whole system of making cars of anything but iron, or using stoves or kerosene lamps was denounced as behind the age. He marked out a simple plan of heating cars with hot air from a furnace car connected with the train for that purpose, and showed how the same apparatus, pipes, flexible couplings, etc., could in hot weather be converted into a ventilating device to convey cool air to the cars and keep out the dust.

The writer then took up the class of accidents most destructive of life and property, namely, those resulting from the breaking of rails, and compared the merits of steel and iron rails, and showed the impossibility to prevent breakage, of whatever material rails may be made, and said that the prevailing idea of the world was that some discovery or improvement must yet be adopted that would prevent cars from leaving the track when rails break, as there was no possible means to prevent them from breaking.

He finally introduced and explained his system of safety rails and safety wheels, which involved considerable expense, but would certainly prevent cars from leaving the track when a rail breaks. It consists of placing an extra set of rails so near the working rails as to allow the flanges of the wheels to pass between them. It is then proposed to cast the wheels with an extra tread to run directly over these safety-rails, but not to touch them (being less in diameter), unless the working rail gives way, when the wheel only has to settle a fourth of an inch to reach the safety-rail, and pass on without the slightest danger or jar. He showed many collateral advantages of this system, and as old and worn-out rails would answer every practical purpose of safety-rails, the cost was not beyond the means of railroad companies, and not too much for the advantages to be derived from the improvement. He concluded by expressing the belief that the national government should take the subject of safety on railroads into its own hands and prohibit stoves, kerosene lamps, wooden cars, etc., on the same principle that it compelled steamboats to carry life-preservers.

After the doctor had finished his paper, a number of gentlemen present took part in the discussion of collateral points bearing on the subject of safety to railway travel. Messrs. J. V. Smith, Dr. Richards, Rosevelt, Creamer, W. H. Smith of Pittsburg, and others took part in the debate, and made many valuable suggestions as to brakes, strengthening of rails, improved modes of casting wheels, etc.

Among the new inventions shown were a number of lamps producing a brilliant light, with the new patent wicks composed of animal and vegetable substances. It is German invention.

HUMBOLDT AND COLORADO RAILROAD.—At a meeting of the Board of Directors of the Humboldt and Colorado Railroad Company, held at Austin on the 21st inst., I. C. Bateman informed the Board that a map of the country through which the proposed railroad would pass had been prepared by Thomas J. Reed, County Surveyor, and was ready for the inspection of the Directors; and also that a pamphlet would soon be published containing full statistics in relation to the project. A committee was appointed to procure maps and collect information respecting the character and resources of the country, and to have the same published in a pamphlet and delivered to the representatives and senators, to be presented by them for the action of Congress. Two routes are marked for the projected railroad; the first connects with the line of the Southern Pacific road at El Dorado Cañon on the Colorado river, and sweeps northwest to the head of Reese River Valley, and thence bears nearly north through that valley to the Humboldt river, east of Battle Mountain district; the second connects with the line of the first about 100 miles from the point of beginning, and then extends in an almost straight line to the Humboldt river, passing between the Diamond and Ruby mountains and between the White Pine and Newark and Diamond districts.

FRANCE AND THE DARIEN CANAL.—It is not improbable that, though the project of opening a ship canal through the Isthmus of Darien has been undertaken by an American Company, Louis Napoleon may attempt to construct a rival canal in the interests of France. The fact that the late French Consul in New York has recently been appointed Minister to New Grenada, and that a party of eminent French Engineers have arrived in that State, on an exploring expedition, seem to bear out the theory that the astute ruler of France is turning his attention that way.—*Times.*

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board.

San Francisco, December 5, 1868.

Financial.

Our local money market is working more smoothly and more steadily than for a month past, with every prospect of increased ease by the 1st of January. The unusual activity which has characterized our Branch Mint for the past three months, during which period over seven millions of dollars have been coined, will prove materially beneficial at this season of the year when the Mint is about to close operations for two or three weeks. Much of the money disbursed for grain and other farm products, and scattered throughout the State, is now returning to the financial centre, and the stream will probably grow in volume for some time yet, as farmers are anxious to lay in their supplies of foreign commodities and manufactured goods before the rainy season becomes severe enough to impede land travel. Merchants and traders from the interior are also large purchasers, putting into circulation considerable amounts of cash.

Rates in bank remain rigidly fixed at 1@1½ per cent. per month for first class borrowers with the best collaterals; second class are accommodated at 1½@1¾ per cent. monthly. Gold bars are in fair supply at 850; silver bars rule, as usual, from par to ¼ per cent. premium; currency hills, on Atlantic cities, pay 33@33½ per cent. premium on gold; sight drafts, payable in gold, command 1 per cent. premium; telegraphic transfers, 1¾ per cent. premium; sterling exchange is quotable at 49d.; commercial exchange, 49¾d.; Mexican dollars are worth 4 per cent. premium. Gold in New York, on the 3d December, was selling at 135 1-8. Sterling hills, at 109⅞@110. With us Legal Tenders are quotable at 73@73½.

Our Branch Mint has been energetically worked since the 1st of September, having coined in the past three months not less than $7,465,000, being $2,455,000 in September: $2,415,000 in October, and $2,595,000 in November. The silver coinage for the last month amounted to $17,000. Gold deposits for November reached 140,000 ounces, and the silver deposits were 26,217 ounces. At the rate in which coin has been turned out for the past three months by our local institution, it would, in the course of a year, supply the market with $23,860,000, while the total coinage of the Parent Mint at Philadelphia, from the 1st of January to the 1st of October, did not exceed $1,700,000.

At the count of the money in the Treasury by the Governor and Secretary of State, there was found a total of $1,167,627 10—$1,045,033 in gold and silver, and $122,593 50 in Legal Tender notes.

Over a million and a half of dollars are inclosed in our City Treasury, making, between that and the State Treasury, over $2,600,000 locked up from business.—Very large amounts are also tied up in grain, of which there are over 4,000,000 centals yet to find a market. The Board of State Harbor Commissioners report the receipts for November at $38,000, in round numbers. It is very apparent that we have not nearly room enough at our wharves to accommodate the shipping which annually seeks our port. The number is steadily increasing, and at the same rate of progress made in the past three years, we shall soon need five times more wharf space than we can now supply.

Real estate transactions met with a decided check in November. Charles D. Carter, publisher of the *San Francisco Real Estate Circular*, accounts for it in the following manner:

Up to the close of October no dullness followed the earthquake. To it, however, undoubtedly we must in part attribute the quietness of the market in November. Other causes have been at work which had fully as much indeed, probably more—to do with the prevailing fall than the earthquake. Money was very scarce last month, especially in the early portion of it. This is a fact which all business men know, yet comparatively few are aware how very stringent the market really was. Upon some of the best mercantile paper 2 per cent. per month was exacted, and even at these rates borrowers in many cases experienced difficulty in obtaining requisite accommodation. This state of affairs, of course, had its effect upon the real estate market; but the chief cause of depression lay in the fact that the loan societies, during the first half the month especially, either had no funds on hand, or what is much more probable, they decided to hold off a little from loaning, in view of the monetary panic in New York, and the apparent sympathy which our money market manifested with it for a short time. Prophets by the dozen, too, were not wanting, who assured everybody that the temporary lull in real estate was the immediate forerunner of a general fall in prices, and even the slightest possibility of such a contingency justified the societies in declining to loan much until the barometer of events was closely scanned for a short time.—When the loan societies shut off their supplies of money, the effect must, as it did last month, become immediately apparent in real estate, because they are the great feeders of the pecuniary wants of that market.

We concur, in the main, with the foregoing view of the causes; but think that sufficient stress has not been laid upon the first mentioned—which undoubtedly had a very demoralizing tendency upon the market.

The steamer Montana, of the P. M. S. S. Co.'s Panama line arrived here on 3d December, in time to connect with the steamship China, bound for Hongkong via Yokahama. The China sailed on the afternoon of the same day with a large number of passengers and considerable freight. The propeller Montana will sail for Honolulu on Wednesday, the 9th December, carrying U. S. mails. The U. S. steamer Resaca recently arrived here from Mexican ports, bringing some $91,000 in Mexican dollars. This interference with legitimate commerce, on the part of the Government, should be stopped. So sensitive is it in some respects, that although possessing any number of teams of the best quality, it will let out large contracts for the transportation of army supplies, sooner than compete with private enterprise, yet, it feels no hesitation to compete against the mercantile community. Ships of war should be positively prohibited from carrying anything in the way of merchandise, whether goods or coin, in time of peace, or, unless it can be made apparent that unusually dangerous risks have to be encountered if sent by the usual channels.

City Stocks.

During the period under review sales of California Steam Navigation Co. stock were made at 52½ ₱ cent., and Spring Valley Water at $65@65 25 ₱ share. The latter company will disburse its usual dividend of ½ ₱ cent. on the 10th inst. The Gas Co. paid its customary monthly dividend on the first instant, as did also the Pacific Bank. At the close San Francisco Gas stock was sold at $77 50@77 per share, with large sales at the latter figure.

The Marine Premiums received by our local insurance companies, for the quarter ending October 31st, 1868, have been as follows:

Merchants' Mutual Marine	$56,972
Pacific	65,705
Union	62,059
California	41,049
Fireman's Fund	18,469
Occidental	6,389
Home Mutual	6,136

Mining Share Market.

Since our previous reference, the mining share market experienced a marked degree of activity, the aggregate sales showing a large increase, and most shares an important advance over rates that have ruled for a long time past. This is mainly due to the discoveries of the Yellow Jacket in their lowest workings, as well as the favorable appearance of other localities on the famous Comstock lode; besides, a speculative disposition always accompanies any material advance, thus bringing the general list into the market, thereby causing a largely augmented business, and in view of this the open morning session has been revived. The transactions as compared with last week show an increase of more than $700,000.

Yellow Jacket—has been in marked request during the past week, selling as high as $1,705, dropping to $1,500, and at the close realizing $1,507 50. It is reported that rich discoveries of ore have been made in the east drift, from the 900 level, ten feet thick, the assays of which run very high; also, that the north drift from the 800 level shows a body of good pay ore, said to be thirteen feet wide.

Imperial—advanced from $112 to $145, declined to $119@117, and closed at $115. On the first instant the Imperial-Empire shaft was 176 feet in depth below the 900 level. The drift running east, near the north line on the 900 level, is in hard quartz. Work has been suspended in drifting on the 750 level, having reached what is thought to be the east wall without finding any pay ore. They continue to extract about 140 tons of ore per day.

Kentuck—rose from $240 to $300, declined to $254, then sold at $275, and at the close realized $282. The receipts for November account so far reach $58,591 47. A dividend of $30 per share will be paid on the 10th inst. ....Savage sold quite largely at $67 50@83, then at $73, closing at $71.

Crown Point—sold within a range of $47@55 25, then at $48 50, closing at $48. During last week 360 tons of ore were raised, showing a value of $11,955. The bullion receipts so far for November account foot up $50,654.

Gould & Curry—advanced from $93 to $130, declined to $104, and closed at $105 50. The indications are favorable in this mine, as it is believed that the late discoveries in the Bonner shaft will lead to good results. Every body hopes so, as it will vastly revive the interest in the Comstock lode.

Chollar-Potosi—improved from $158 to $180, declined to $155, and closed at $158. During the week ending November 27th, 1,237 tons of ore were extracted from the Blue Wing body—937 from the stope and 300 from the cut—against 1,200 tons the previous week. On the first instant sent forward $10,605 in bullion. A dispatch of the 2d reads: "Quartz coming in face of north drift, 1100 level; carries no metal."

Amador—opened at $223, and rapidly advanced to $240. This mine looks as encouraging as it did several months ago. The receipts for November reach $47,000. The monthly dividend will likely be $5 per share.

Overman—has been moderately dealt in, selling at $49@64, then at $51, and closing at $49 50. Since our previous report, $11,126 in bullion came to hand.

Alpha—sold at $50@38, and closed at $38 50. An assessment of $10 per share was levied on the 3d instant..... Gold Hill was in the market at $50@55. The receipts for November foot up only $2,325 96, but the mill has been under repair for some three weeks. They had 479 tons on their dump on the 1st instant.

Annual Meetings.—Ophir on the 16th instant; Empire on the same day; Belcher on the 21st instant; Cole on the 9th.

Lady Bryan levied an assessment of $5 per share on the 24th of November, and Rising Star $10 per share, delinquent on the 5th of January.

Ingenious Safety-Lamp. — It is well known that many of the explosions in coal mines have been caused by the foolhardiness of the miners themselves, who in utter disregard of orders and of common sense open their Davy lamps in order to light their pipes. All the lamps which have been contrived have been capable of being tampered with in this way. But the *London Mining Journal* of Sept. 12th, notices a newly invented lamp which is not open to that objection. The screw which locks the lamp passes through in the usual way, and at a certain point an invisible pin drops into the said screw, which effectually prevents either tampering with the screw or the unlocking of the lamp, and the lamp can only be unlocked by turning it upside down, to allow the pin to return, which, of course, extinguishes the light, and all danger is past.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE.
Alpha, Storey co., Nev., Dec. 3, $10	Jan. 5	Jan. 25
Amanda Co., dividend, $5 per share	Payable Nov. 30, 1868	
Alamo, Lyon co., Nev., Nov. 25, 35c	Dec. 31	Jan. 20*
Bullion, Aug. 19, $10	Payable immediately	
Bacon, Storey co., Nev., div.	Payable June 19, 1868	
Belcher, Storey co., Nev., Oct. 6, $25	Nov. 6	Dec. 8
Chipleuena, Mexico, Nov. 6, $2.50	Dec. 11	Dec. 28*
Cherokee Flat, Butte co., Oct. 20, $5	Nov. 23	Dec 9
Carolifera, Mex., Oct. 16, $1	Nov. 18	Dec. 7*
Chollar-Potosi, div., $25	Payable Oct. 15, 1867	
Crown Point, dividend, $7.50	Payable Sept. 12 1868	
Colorado, Arizona	Annual Meeting Dec. 28*	
Cole, Virginia	Annual Meeting Dec 9	
Diamond cop., Del Norte co., Oct. 28, $2	Nov. 10	Dec 28*
Folsom St & Ft. R. R., Nov. 13, $5	Dec. 15	Dec 26
Fogus, Amador co., Oct. 23, $2.50	Nov. 24	Dec. 12*
Eureka, div. $5	Payable Nov. 20, 1868	
Empire M & M., Nev., dividend $6.	Payable May 15, 1867	
Empire, Storey co., Nev.	Annual Meeting Dec. 16	
Gould & Curry, div., $7.50	Payable May 15, 1867	
Gold Hill Q M & M—dividend, $7 50	Payable July 13, 1868	
Goldeu Rule, Tuolumne co., div. ₱ sh.	Payable Aug. 23*	
Green Creek, Arizona, Oct. 9, $2.50	Nov. 11	Dec. 30*
Gold Hill Tun. S orcy co., Nev. Oct. 9, $2	Nov. 18	Dec. 9*
Glenwood Mill, El Dorado co., Oct. 10, $5	Nov. 20	Dec. 9*
Hale & Norcross, div. $125	Sept. 16, 1867	
Hale & Norcross, Virginia, Oct. 12, $10	Nov. 14	Dec. 5
Hope Gravel, Nevada co., Nov 13, $1	Dec. 22	Jan. 11*
Imperial, Storey co., Nev., div.	Payable June 20, 1868	
Julia, Storey co., Nev., Oct. 22, $1.50	Nov. 25	Dec. 14
Kentuck, div., $30 per share	Payable Dec. 10, 1868	
Maxwell, Amador co., Nov. 13, $2.50	Dec. 14	Jan. 5
North Star, dividend, $5	Payable Aug. 15, 1868	
Nevada County M. Co., $1	Nov. 18	Dec. 19*
Overman, Storey co., Nov. 13 $20	Dec. 16	Jan. 4
Ophir, Storey co., Nev., Nov. 9, $3	Dec. 12	Jan. 2
Oriental, Sierra co., Nov. 9, $2	Dec. 14	Dec. 30
Pacific Unassessable, div.	Payable June 18, 1868	
Rattlesnake, Yuba co., Oct 13, $2	Nov. 18	Dec. 7*
Rippon, Alpine co., Oct. 15, $1	Nov. 23	Dec. 17*
Rising Star, Idaho, Nov. 16, $10	January 4	Jan. 30
S. F. & Castle Dome, Arizona, Nov. 25, 3c.	Dec. 28	Jan. 12*
Santiago, Silver City, dividend, $2.	Payable Nov. 20, 1868	
Senator, Storey co., Nev., Nov. 2, 50c	Dec. 4	Dec. 24*
Savage, Virginia, Nev., dividend, $5	Payable Oct. 10, 1868	
Sand Spring Salt, dividend $1	Payable June 5, 1868	
Sierra Nevada, Nev., Nov. 16, $12.5	Dec. 18	Jan. 5
U. S. Grant, Nevada co., Nov. 9, 50c	Dec. 15	Jan 2*
Virginia & G. H Water Co.	Dividend, payable Nov. 20, 1868	
Yellow Jacket, div., $300	Payable Nov. 10, 1868	

Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. Stock and Exchange Board.

Friday Evening, Dec. 4, 1868.

Miscellaneous Stocks.	Bid.	Asked.
United States Bonds, 5 20s, 1865, '67, '68	$ 80½	81¾
United States Bonds, 5 20s, 1864	79	80
United States Bonds, 5-20s, 1862	80	81
Legal Tender Notes	72¼	73¾
California State Bonds, 7s, 1857	95	95
San Francisco Bonds, 10s, 1851	par & int.	
San Francisco City Bonds, 6s, 1855	—	—
San Francisco City and County Bonds, 6s, 1858	85	87½
San Francisco School Bonds, 10s, 1865	100	103
San Francisco School Bonds, 10s, 1861	par & int.	
San Francisco City and Co. Sch'l B'ds, 7s, 1865	90	—
San Francisco City and Co. Bonds, 7s, 1862	87½	89
San Francisco City and Co. Bonds, 7s, 1864	87½	89
San Francisco City and Co. Bonds, 7s, 1865	87½	89
San Francisco City and Co. Judg. Bds. 7s, 1863	87½	89
San Francisco City and Co. Judg. Bds, 7s, 1864	87½	89
Sacramento City Bonds	23	25
Sacramento County Bonds, 6s	70	72
Marysville Bonds, 10s	75	80
Stockton City Bonds	60	70
Yuba County Bonds, 8s	77	79
Santa Clara County Bonds, 7s	75	77
Butte County Bonds, 10s, 1865	70	75
San Mateo County Bonds, 7s	75	80
California Steam Navigation Co.	5⅜	55
Spring Valley Water Co	65	65½
State Telegraph Co.	20	—
Gas Companies.		
San Francisco Gas Co	—	—
Sacramento Gas Co.	77¼	77½
Railroads.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	70	—
Central Railroad	49	52
North Beach and Mission Railroad	66	68
Front Street, Mission and Ocean Railroad	11	12
Banking Institutions.		
Pacific Bank	97½	100
The Bank of California	157	158
California, Loan and Savings Society	—	—
Insurance Companies.		
Firemans' Fund Insurance Co	92½	94
Pacific Insurance Co	124	125
San Francisco Insurance Co	—	105
Merchants' Mutual Marine Insurance Co	500	525
California Insurance Co	1300	1400
Union Insurance Co	92	93
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	72	—
National Insurance Co	72	—
Builders' Insurance Co	—	—
Mining Stocks—Washoe District.		
Alpha	38	38½
Baltimore American	—	—
Belcher	175	180
Bullion, G. H	18½	19
Crown Point	47½	48
Cole (Va.)	10	12
Confidence	40	41
Consolidated Virginia	10	12
Chollar-Potosi	158	159
Caney	4¾	5
Exchequer	20	20¾
Empire Mill and Mining Co	110	115
Gould & Curry	104½	105½
Gold Hill Quartz	55	55
Hale & Norcross	70	71
Imperial	115	116
Kentuck	280	282
Julia	2	3
Justice and Independent	7	8
Lady Bryan	16½	17½
North American	—	—
Ophir	31	35
Overman	49½	50
Segregated Belcher	—	—
Savage	70	71
Sierra Nevada	12	13
Yellow Jacket	1505	1510
Union	—	—
United States	—	—
Miscellaneous Mining Stocks.		
Amador (California)	220	—
North Star (California)	—	—
Eureka (California)	210	—
De Soto (Humboldt)	—	—
Golden Rule, California	5	—

San Francisco Market Rates.

Wholesale Prices.

Friday, Dec. 4, 1868.

Flour, Extra, ₱ bbl	$5 50	@$6 00
Do. Superfine	4 75	@ 5 00
Corn Meal, ₱ 100 lbs	3 25	@ 3 50
Wheat, ₱ 100 lbs	1 50	@ 1 85
Oats, ₱ 100 lbs	1 75	@ 2 40
Barley, ₱ 100 lbs	2 05	@ 2 25
Beans, ₱ 100 lbs	3 00	@ 3 50
Potatoes, ₱ 100 lbs	75	@ 1 10
Hay, ₱ ton	10 00	@16 00
Live Oak Wood, ₱ cord	9 00	@10 00
Beef, extra, dressed, ₱ lb	8	@ 10
Sheep, on foot	3 00	@ 3 25
Hogs, on foot, ₱ lb	4½	@ 5
Hogs, dressed, ₱ lb	8	@ —

Groceries, etc.

Sugar, crushed, ₱ lb	—	@ 17
Do. China	10	@ 12½
Coffee, Costa Rica, ₱ lb	16½	@ 16¾
Do. Rio	—	@ 16¾
Tea, Japan, ₱ lb	75	@ 90
Do. Green	90	@ 1 25
Hawaiian Rice, ₱ lb	9	@ 10
China Rice, ₱ lb	6	@ 7
Coal Oil, ₱ gallon	45	@ 50
Candles, ₱ lb	15	@ 16
Ranch Butter, ₱ lb	60	@ 75
Isthmus Butter, ₱ lb	30	@ 45
Cheese, California, ₱ lb	15	@ 21
Cheese, Eastern	65	@ 70
Lard, ₱ lb	13	@ 14
Ham and Bacon, ₱ lb	14	@ 18
Shoulders, ₱ lb	6	@ 8

Retail Prices.

Butter, California, fresh, ₱ lb	80	@ 90
do. pickled, ₱ lb	30	@ 40
do. Oregon, ₱ lb	20	@ 25
do. New York, ₱ lb	35	@ 45
Cheese, ₱ lb	20	@ 25
Honey, ₱ lb	25	@ 30
Eggs, ₱ dozen	90	@ 100
Lard, ₱ lb	15	@ 17
Hams and Bacon, ₱ lb	23	@ 25
Cranberries, ₱ gallon	—	@ 100
Potatoes, ₱ lb	1½	@ 2
Potatoes, Sweet, ₱ lb	3	@ —
Tomatoes, ₱ lb	3	@ —
Onions, ₱ lb	3	@ —
Apples, No. 1, ₱ lb	4	@ 5
Pears, Table, ₱ lb	5	@ 7
Plums, dried, ₱ lb	11	@ 13
Peaches, dried, ₱ lb	—	@ —
Grapes, ₱ dozen	75	@ 100
Lemons, ₱ dozen	1 00	@ 1 50
Chickens, apiece	50	@ 75
Turkeys, ₱ lb	20	@ 25
Soap, Pale and G. O.	7	@ 12
Soap, Castile, ₱ lb	—	@ 20

San Francisco Metal Market.

Prices for Invoices.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

Friday Dec. 4, 1868.

Iron.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar 1@1¼c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1¾@1¾c ₱ lb; Plate, 1¼c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2½c ₱ lb.		
Scotch and English Pig Iron ₱ ton	$35 00	@$36 00
White Pig ₱ ton	— —	@ 36 00
Refined Bar, bad assortment ₱ lb	— 03	@ — —
Refined Bar, good assortment, ₱ lb	— 04	@ — —
Boiler, No. 1 to 4	— 04½	@ — —
Plate, No. 5 to 9	— —	@ — 04¾
Sheet, No. 10 to 13	— 04½	@ — 5
Sheet, No. 14 to 20	— 05	@ — 5¾
Sheet, No. 24 to 27	— 05	@ — 6¾
Copper.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb		
Sheathing, ₱ lb	— —	@ — 26
Sheathing, Yellow	— 20	@ — 21
Sheathing, Old Yellow	— 10	@ — 11
Bolts	— 21	@ — 22
Composition Nails	— 21	@ — 22
Tin Plates.—Duty: 22½ cent. ad valorem.		
Plates, Charcoal, IX, ₱ box	12 00	@ — —
Plates, I C Charcoal	— —	@ 11 00
Roofing Plates	10 00	@ 10 50
Banca Tin, Slabs, ₱ lb	— —	@ — 30
Steel.—English Cast Steel, ₱ lb	— —	@ — 15
Quicksilver.—₱ lb	— 55	@ — 60
Lead.—Pig, ₱ lb	7½	@ — 8
Sheet	— 10	@ — —
Pipe	— 11	@ — —
Bar	— 9	@ — 9½
Zinc.—Sheets, ₱ lb	— —	@ — 9¾
Borax.—California, ₱ lb	— 20	@ — 23

New Incorporations.—Articles of incorporation have been recently filed in the County Clerk's office in this city as follows:

Golden Chariot Mining Co.—Owyhee County, Idaho Territory. Nov. 30th. Capital stock, $1,000,000; 10,000 shares, $100 each. Trustees: Hill Beachy, Mark Livingstone, George Hearst, J. J. Valentine, R. Bailey, G. W. Beaver and M. J. McDonald.

Wheeler Mining Co.—Esmeralda Co., Nev. Nov. 30th. Capital stock, $1,200,000; 12,000 shares, $100 each. Trustees: A. J. Pope, Clark Churchill, W. L. Palmer, A. H. Barker and Thos. Wheeler.

Virginia Silver Mining Co.—White Pine, Nev. Nov. 30th. Capital stock. $1,600,000; 1,600 shares, $100 each. Trustees: W. H. Sharp, Mark L. McDonald, John M. Byrne, Lafayette Loveland and Alvin W. Whitney.

Peoples' Insurance Co.—San Francisco. Oct. 30th. Capital stock, $100,000; 1,000 shares, $100 each. Trustees: John Flannigan, Arthur W. Jee, J. E. Damon, H. W. Bradley, E. J. Delaney, Philip Meagher, B. Mendessolle, B. C. Horn, Robt. Haight, W. Fishel, D. Murphy and C. W. Kellogg. President, C. F. McDermott.

Mutual Aid Association.—San Francisco. Dec. 1st. Directors: Nathan Wentworth, R. A. I. Repiton, B. H. Wyman, I. R. Rives, Wyatt Birdsall and J. M. Murphy.

Long's Peak.—On the 23d of October, this peak, in the Rocky Mountain range, was ascended by the Powell Scientific Expedition. The usual observations were made, and a monument erected, in which was placed a tin case containing a record of the observations with date, names of party, etc. A flag was planted and left flying. This peak is a celebrated landmark. Its hight is 14,250 feet above the sea level.

Save your eyesight by procuring a properly adjusted pair of spectacles. Muller, 505 Montgomery street, understands how to adjust and adapt them to suit the eyes of every one.

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County.

Markleeville *Miner*, Nov. 21st: The Imperial tunnel recently penetrated a small strata of a substanee which is a kind of glass of volcanic origin. In the early days of prospeeting here, the croppings of this same vein were located as eoal, and eonsiderahle excitement occasioned therehy.

The halance of the shafting and castings for the new mill of the M. C. M. Co., are on the way over from Sacramento and are expeeted to arrive in a few days. The work of sinking the pit for the turhine wheel is finished and the curbing will be put in next week.

Chronicle, Nov. 21st: On last Tuesday morning, a small shipment of silver hullion—61¼-lbs.—was made to San Francisco by John G. Slaven, Superintendent of the I.X.L. elaim at Silver Mountain. This hullion was obtained from 16 tons of ore, and without making a thorough elean up at the Pittsburg mill, where it was worked. Having no assayer here the value of the bullion could not he ascertained, but it is thought the ore has averaged $90 per ton.

Amador County.

Jaekson *Ledger*, Nov. 28th: The Wolverine mine is heing worked vigorously. They have reached a depth that requires steam hoisting works, and the same is being erected with all speed.

The Trowbridge mine is now being worked with energy. They are down 130 ft., and have a ledge about 18 ft. wide. We were shown some roek taken from it last Monday, which was very rich, being literally studded with gold-bearing sulphurets. This mine is located the second north of the Coney & Bigelow, and direetly on that range.

The boiler to he used at the Anaeonda mine, has been "set," and in a few days active operations will be eommeneed in the shaft. This mine is looked upon as one of the hest in the Pine Grove region.

Los Angeles County.

Los Angeles *News*, Nov. 24th: By the arrival of a gentleman from Soledad, we learn that Polk & Kahle's 5-stamp mill cleaned up $1,000, from a six days' run. The mill of Searles & Yates will be completed by the 1st of January, and will contain five stamps, and like that of Polk & Kabler, will be run by water power. The utmost confidence is felt in the mines by those at work. Some 80 men are now engaged in those mines.

Mariposa County.

Gazette, Nov. 21st: The new quartz mill of Williams, Fine & Co., on the Buckingham Mountain, is nearly completed, and will be in operation in about two weeks. It is a very substantial affair, and will do good service. In fact, we know of no other mining enterprise in this region with brighter prospects of pecuniary success. The vein thus far fully sustains its character for richness, and the only perceptible change in it is for the better.

Nevada County.

Transcript, Nov. 25th: The Mammoth gravel claim is located above the junction of Little Deer Creek and Sailor Ravine. They have during the summer, blasted through a ledge of rocks at Donkeyville, below the junction of Deer Creek and Sailor Ravine, and have cleaned up the cañon, and as soon as they can get water will be ready to commence work. The basin opened by this cut has been for twelve years past a dumping ground for tailings, and it also opens a considerable amount of new ground. There is every prospect that the owners will make a first rate thing during the season.

Nov. 29th: The hydraulic miners are patiently waiting for water. Many of the claims are ready for work and will start up after the first good storm which gives sufficient water to fill the ditches.

A company of Chinamen have for several months past been engaged in mining on Deer Creek, below the bridge. They have constructed first rate flumes and sluices, and have worked the bed of the creek thoroughly and systematically. We understand that they have taken out excellent pay during the time they have been working.

Gazette, Nov. 25th: The Tecumseh mill, above Omega, commenced crushing rock last week from the Fidelity ledge.

Nov. 28th: The mine and mill of the New York Hill Mining Co., at Grass Valley, were disposed of at Sheriff's sale on Wednesday. The property brought over $10,000.

Grass Valley *Union*, Nov. 25th: So far as the prospects of the mines in and around Grass Valley are concerned, they never have been better. The North Star, the Empire and the Eureka mines all improve as the workmen get down on the ledges, which demonstrates their permanence. The Allison Ranch mine, "the richest gold mine in the world," will start up at an early day, the difficulties which have kept that rich treasure vault closed for two years past, having been removed, and the company now being harmonious. There can be no doubt but that the Allison Ranch mine will be again, what it was in the past, since when work was stopped there the rock looked as well as it ever did. The company will start in with all the improvements for saving gold, and an economical working of the "Ranch" will make more than one millionaire. The Coe mine is rapidly proving itself to be a valuable property, and will soon take a high rank in the market. The Idaho is among the leading mines, and continues to give forth a stream of steady pay. The Hitchen's and Larimer ledge is promising heavy pay. From two miles below the town on Wolfe Creek, to the head waters of that stream, two or three miles above, there are innumerable quartz ledges, any one of which will pay for working, as machinery improves, and as living and labor become cheaper. The late discoveries of good ledges in this district has had already a good effect on our town. The healthy state of mining affairs here can not but be gratifying to our people, as well as a matter of pride to the whole State.

The Eureka Co. have taken steps to procure a patent for their mine.

Nov. 28th: The Mutual Mining Co., working the Jim mine, at Graniteville, yesterday sent down to this place, $1,500, as the result of ten days' run with five stamps of their mill. The rock now coming out from the Jim looks better than ever before, and the ledge continues a very large one.

Nov. 29th: The Bovee mine is showing out splendidly. The ledge is good two feet in thickness, and the rock coming out shows free gold all through it, with the heaviest and richest kind of sulphurets. The walls of the ledge are beautiful, indicating a true ledge. If its present richness holds out for 300 feet down, the owners will be rich men.

While White Pine attracts so much attention, Grass Valley more than holds its own. The Empire mill is working rock which would, in any other district, be called specimen rock. Union Hill mill has ore which runs $15 to $20 per ton, and plenty of it on hand, and which can he easily mined. Frank Morse's crushing is going on at Ben. Macauley's mill, with an appearance in the batteries and on the plates, which indicates big results. The North Star has to mount guard over the rich rock which comes from its cars, and as it goes into the batteries. The Coe mine never looked better than it did yesterday. The Idaho is proving itself a second Eureka.

The North Star mill on Saturday cleaned up $19,000 after a twelve days' run. From the character of the rock now being put through, the next clean up will he better than the last by several thousand dollars.

Grass Valley *National*, Nov. 24th: The Providence Mining Co. have located 2,000 feet on the Grass Valley quartz ledge. This ledge crosses Wolf Creek west of Hill's Ranch.

Nov. 25th: The Mason Co. have located 200 feet on the John Bright ledge, in Grass Valley township, half a mile south of the Ione mine. The location is north of the Small Hope Co's ledge.

Plumas County.

Quincy *National*, Nov. 21st: C. E. Smith, just down from Jamison City, informs us that the Mammoth Co. have struck the ledge in their new tunnel, and, what is better still, some remarkably rich rock, represented as better than anything heretofore discovered in that locality.

O'Neill & Co. have again commenced work on their ditch, and will soon have the water on their claims in Nigger Gulch. The boys have some ground that prospects well, and expect to "catch it" when they get to piping.

The correspondent at Blackhawk writes: Blackhawk is, as usual, paying. Turner & Co. have taken out, this season, about $11,000. They have not yet got done "bottoming up" and will not be likely to get through this fall. Last week they took out over 50 ounces. Their claim is worked more systematically than any claim I have seen in the county—in fact, I believe that nowhere is the hedrock cleaned more thoroughly. Coleman & Co. are driving away after some more of those $500 nuggets. A few months ago this claim was sold for $50, and the knowing ones said it was not worth that. Now the claim is worth $600 to the share. Cashman & Bowers have dug a ditch from Plumas Creek, to work the bars on the river near the mouth of Blackhawk. They are now ready for the water. Anderson is drifting away on high bars. He makes $4 to $5 a day when he is on the lead. Killey & Archer are driving away with their tunnel. They are getting some good prospects, and will have good pay, unless all signs fail. Johnny Radley is opening the old Pioneer tunnel, at Newtown. He expects to make "summit," and we think he will, as the last set of timbers put in paid two ozs. Quite a number of claims have been located on the ravine above Dr. Coleman's elaim—cause why?—that $500 slug of course. Their is but little doubt that the lead runs from Coleman's claim, on Blackhawk, through to Newtown. John Ball is fitting up his claims for the spring run, at Logansport. In cleaning up, he averaged $4 per day.

Sierra County.

Downieville *Messenger*, Nov. 28th: The owners of the Wolf Creek mine have recently struck splendid rock in their works, and intend to start their mill in a short time.

The ore of the Gold Valley mine, which has heretofore proved refractory, owing to the immense quantity of sulphurets in it, is now being worked in a manner to save all the gold. The chief difficulty has been that the gold would not amalgamate by the usual process. They now use a wooden barrel, and a charge is usually run about 12 hours, when it is found that amalgamation has effectually taken place.

Grass Valley *National*, Nov. 27th: From a gentleman who has recently been engaged in mining operations in Sierra County, we hear most favorable reports concerning the quartz mines of that section. In the vicinity of the Buttes is a belt about a mile in width which contains a great number of well defined ledges. The ledges are bounded on one side by slate, and on the other by serpentine, are plainly marked and can be traced by the croppings for a great distance. All the ledges in this vicinity are very large, ranging from 10 to 25 ft. in thickness. One of the best mines is the Primrose, situated in Hog Cañon. For 600 feet the ledge advances 10 ft. in thickness. A shaft of 168 ft. has been sunk, and the rock shows well in free gold and sulphurets. Over $250,000 have already been taken from this mine from rock worth from $12 to $20 per ton. The Reis mine has a ledge from 20 to 25 ft. thick, is being worked and pays well, the rock yielding from $12 to $15 per ton. The Union mine is prospering well. Rock can be taken out and milled at an expense of not more than $7 per ton.

Siskiyou County.

Yreka *Union*, Nov. 28th: E. H. Hall, this week, showed us some fine specimens of gold bearing quartz taken from the Scoles ledge, in Clear Gulch a few miles below Callahan's Ranch, on Scott River. Considerable gold has been taken from quartz out of this ledge by means of an arastra. Mr. Hall informs us that there is an almost unlimited quantity of quartz of a quality equal to that he showed us.

Tulare County.

Visalia *Delta*, Nov, 25th: The correspondent at White River says: There is but little mining going on here at present. Malthy is about to crush a lot of rock which is richer by far, than any before taken out in this district. The Philadelphia Co. are getting ready to sink a very deep shaft; and that sums up mining matters. This district needs capital brought to develop it more than any mining district I have ever been in. I have not had a cent for three months.

Tuolumne County.

Sonora *Democrat*, Nov. 28th: Work has been resumed on the Tuolumne Mountain or Buchanan mine. Eight men have been at work for some weeks past getting out rock. The mill will soon be started and the rock crushed.

Many excellent mines are now lying idle that could, with proper management, be made to pay well.

Yuba County.

Marysville *Appeal*, Dec. 1st; We were informed yesterday by Mr. Leland, of Brown's Valley, that the Pennsylvania mine has any quantity of paying rock in level No. 10, and that the prospects of the mine are encouraging. The ledge has been opened 14 ft., and it is not known how much larger it is.

ARIZONA.

Prescott *Miner*, Nov. 7th: Noyes & Curtis' Quartz Mountain mill at Nickenburg, is kept running all the time, and yet they cannot supply the demand. The Willow Creek Co's mill is also kept busy at work, but so far, has not been able to keep up with the demands of its customers.

Quartz mining is being steadily prosecuted at the Sterling, the Chase, and at Walker district. At latest accounts from the Sterling, the new incline shaft was down over 40 feet in the ledge, and at that depth a chamber, 30 feet in length, had been run in upon the ledge, which has disclosed a splendid looking vein of rich sulphuret ore. At points in this chamber, the ledge measures nine feet, but its general thickness averages fully 4½ feet.

A few days ago, A. O. Noyes, who, with George Curtis, has been engaged in prospecting the Chase mine for some time past, brought into our office a fine, large specimen of rock, a sample of that taken out of the tunnel which has been run into the vein a distance of 200 feet. The sample was of various colors, and looked very much like the richest Washoe silver rock, but Mr. Noyes assured us that the predominant metal diffused through it was gold, and that it carried lots of it in the small sulphurets and dimiuutive cellules visible to the eye.

French & Turner are working away on the Tie-Tie, in Walker's district.

Mr. Wunderlich recently showed us several pieces of rock from the Galena ledge, in Big Bug district, which we know to be rich. The sulphurets bear a close resemblance to those found in the Sterling mine.

Placer mining has not yet been resumed on Lynx Creek, Big Bug and the Hassayampa, but the miners are ready to pitch in as soon as the water comes. We are daily expecting news from Black Cañon diggings, Bradshaw mining district. Below Walnut Grove, on the Hassayampa, there are several claims that will pay well. At the Mexican Camp, on Lynx Creek, there is plenty of good ground, also, on Big Bug, Black Cañon, Slate, and other creeks. As soon as the hands now employed on the ranches get through with gathering and storing the crops, no doubt many of them will turn their attention to placer mining.

COLORADO.

Georgetown *Miner*, Nov. 12th: The Brown Co's smelting furnace is now in active operation....Work on the Baker mine has been resumed, and will be prosecuted throughout the winter. .... Schirmer & Bruckner have made some much needed repairs on their furnace, and have started up again on Terrible and Equator ore. It is expected the run will be the largest ever made here.

Central City *Register*, Nov. 5th: We saw yesterday 150 ozs. of bullion, from 20 cords of the ore of the Winnebago mine, a result that affords a fine profit ...Ten tons of ore from the Bobtail sold yesterday for $2,367.06. The ore assayed 11¼ ozs. in gold and 21 ozs. in silver per ton. and 9½ per cent. of its gross weight in copper.

The Knickerbocker, of 20 stamps, run by Mason & Ball, is the only one working at Empire. The stamps driven by water power are crushing ore from the Conqueror lode on Silver Mountain, which yields about $200 per cord. They expect to be able to run all winter. At North Empire the Steel & Yerkes mill is crushing surface ore from a lode of the same name. In this mill the Chilian process is used, which, although one of the oldest processes for saving gold, seems to work well on surface ore. With a 16-horse power engine to furnish motion, it crushes nine cords of ore per week, which yields about $100 per cord. They will be able to run all winter. Co'. Tindal expects to have his process running in the Peck and Leibig mills soon, so that in a few weeks there will be four mills running in that vicinity. Of the mines at North Empire the Conqueror is probably the richest that is now being worked.

The Livingston County lode has a shaft down 110 ft., which is yielding fine looking ore from a three foot crevice. The surface ore paid about $100 per cord. The Peck lode is yielding good surface ore. Silver Mountain, which is a misnomer, as there is no silver found in it, is one of the richest mountains in Colorado for gold, large portions of its surface paying well for sluicing.

Gold hullion, worth $7,000, was received yesterday at Clark & Co's bank, from Miller & Borham. It is from the ores of the Hunter lode. The mine is paying remarkably well.

Nov. 12th: During the last month the Rocky Mountain National Bank shipped $80,000 in gold bullion, and $3,000 in silver bullion ...Slawson, King and Collom will continue during the winter to work their several mines in the vicinity of Montezuma.

Prospecting and practical developments are being carried forward in Slaughter House Gulch, with a zeal never before manifested in this country. Each day brings something new, reports of enormous yields produced by the ores discovered.

A lode has been found at the head of Virginia Cañon, which has produced several nuggets weighing nearly half an ounce each.

Mr. Teats took out 3,000 ozs. of silver bullion last week from ores in Slaughter House Gulch.

Mr. Conlee, who has rented the Gilpin Co's mine on the Burroughs lode, has it in prime order. His timbering is complete, and he has commenced taking out ore which runs from 5¼ to 7¼ ounces of gold per cord.

Capt. Hoyt, who has just returned from Granite, reports great activity among the mines there, and the prospect for a good winter's work. Felton's and Morrison and Partridge's mills are running, and both doing well. Hayden's mill will soon start again.

Denver *News*, Nov. 4th: At the First National Bank this morning was a very fine lot of gold dust.

At the Colorado National Bank this morning were five bars silver bullion weighing 1,944 ozs., and valued at about $2,500 currency.

MONTANA.

Helena *Post*, Nov. 13th: From Blackfoot we have the most encouraging accounts of the increased prosperity of that usually favored locality. The claims all are paying very well—some are yielding very largely, and the camp is very lively. The present storm will retard mining operations very little.

J. M. Trevitt, who has just arrived in town from Silver Star district, reports very favorably in regard to the mining prospects of that district. His mill is at work day and night, crushing rock which yields very richly. The mill of Everett & Co. is hard at work upon the Green Campbell lode with very fine results.

From Mr. L. Bugher, who has just arrived from Phillipsburg, we learn that everything promises splendidly. The St. Louis & Montana mill is at work on rock from the famous Rumley & Bugher lode.

The snow in Lincoln Gulch does not in the least hinder the progress of mining operations.

From Mr. Rutan, who is just over from Jefferson City, we learn that a second run was made, which, like the first, proved a success. Mr. Rutan has demonstrated the fact that furnaces can be constructed, silver rock smelted, and the thing made to pay. This furnace, which was built under such disadvantageous circumstances, and operated so successfully, will be kept in full blast during the winter.

The German Gulch correspondent says that mining has ceased in the upper part of the gulch, with the exception of Dr. Beals and Harris & Co., and W. S. McClurg; these parties are still prosecuting their mining operations with great success.

Virginia *Democrat*, Nov. 12th: From a letter from Silver Star, we learn that the Woodruff & Hendrie mill is running day and night. The Madison County mill will start up in about a week. Jones & Erwin are running two arastras. Spires & Co. two, and Peter White one, each running with fine results and great satisfaction. Jones & Co. are negotiating for a mill in the East which will be out in the spring.

Trevitt's mill at Silver Star cleaned up 100 ozs. of amalgam from a four days' run, with six stamps. This run amounts to $1,500....Everett's mill is crushing rock from the Green Campbell lode, with splendid results....The Hendrick's mill, at Rochester, is also pounding away.

The Deer Lodge *Independent* says: The Highland Co's mill commenced crushing rock a week ago yesterday.

NEVADA.

Humboldt.

Unionville *Register*, Nov. 28th: On Monday next, the new mill of Stewart & Co. will start up on ore from their mine, adjoining Fall & Co's mine. They have now at the mill 75 tons of ore, and a large quantity more out at the mine, which will be brought down as fast as needed.

Virginia *Enterprise*, Nov. 28th: The Golconda mine is situated in Gold Run district, Humboldt County, and is now being vigorously worked. The company are now down on their ledge to the depth of 152 ft., where it has increased from a width of three ft. at the surface to seven ft. The ore steadily increases in richness as depth upon the shaft is attained. The shaft first cut the vein at the depth of 75 ft., when it was followed down on an incline to the present depth—152 ft. The claim consists of 2,000 ft. on the vein, and the incline is at the north end, while about 1,000 ft. south is a tunnel, some 90 ft. in length and all the way in the vein, which has here an average of four ft. and works $60 per ton at the company's mill. There are claims taken up for six or eight miles north and south of the Golconda and through the whole belt, which is in the Humboldt range of mountains. The ore appears to be of the same character. The principal mines in the immediate vicinity are the Register, Jefferson, and the Home Ticket. This last prospects exceedingly well on the croppings, which rise above the surface for the whole extent of the claim—a distance of 1,400 ft.

We yesterday noticed at the Bank of California a brick from the Chloride mine, Humboldt County, a bar of bullion weighing 1,518.40 ozs., which contained but $822.51 in silver and no gold. The bar looked very black by the side of the bullion of the Comstock range.

Reese River.

Austin *Reveille*, Nov. 24th: Four bars of bullion, valued at $5,121.72, were brought into this city yesterday, from the Monte Cristo mill at White Pine, and deposited in the office of David Lundhom, for assaying.

We saw to-day at the assay office of Boalt & Stetefeldt, a neat bar of silver worth $45, which was produced by 7¼ pounds of ore from the Eberhard and Keystone claims—at the rate of $6 a pound.

Nov. 25th: We learned through James M. Groves, of Belmont, that when he left there yesterday morning, there was a lively excitement respecting the reported discovery of something rich, a few miles southeast from Belmont. The story goes that an Indian brought into that town pieces of handsome ore, which yielded assays of $800 to the ton, and that he told his hearers there was a heap more of the same sort. His story and the ore which he brought with him caused great excitement, and when Mr. Groves left Belmont, nearly every man had gone to the spot pointed out by the Indian. As near as could he ascertained, the place is some 17 miles nearly southeast from Belmont, in a direct line with the course of the great El Dorado.

The Alpine *Chronicle*, of Nov. 21st, gives an extract from a letter received in that place from a gentleman at White Pine, who says: Most of the mines are worked through shafts that are sunk from 10 to 30 ft. through limestone, quartz and spar. The ore is horn silver, chloride and bromides. The pure horn silver is mostly sacked to ship to San Francisco, or is worked with poor quartz. The chloride is dry crushed and worked in pans to 85 or 90 per cent. of the assay value of the pulp. We have the Newark mill, of 20 stamps, the Monte Cristo, of five stamps, Captain Page's mill, of ten stamps, and Phillips' mill, of ten stamps. They reduce about 1½ tons per day of 24 hours to the stamp.

Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Virginia *Enterprise*, Nov. 25th: A German prospector, who has been out in the unexplored regions of the eastern portion of this State, informs us that a gold mine of extraordinary richness has lately been discovered about 45 miles south of Mammoth district. The rock is described as presenting the appearance of being half gold. Also, about four miles this side of Mammoth, a German had struck a very rich lead. The vein is in slate rock, some four feet wide, with a pay streak about two feet in width, and on one side the owner has stripped the rock away from the face of the ledge to the depth of eight feet. The rock thus exposed is literally spangled with free gold, and it is estimated that the ore in sight will pay $20,000 to the ton.

Nov. 26th: Some very fair looking quartz has been found by this company in the bottom of the Bonner shaft. The indications are good for finding ore at no distant day.

The Mexican mill, at Empire City, has been sold to the Yellow Jacket Co.

Nov. 28th: The total amount of bullion shipped from this city and Gold Hill during the last week, was 6,188 pounds of assayed bullion, valued at $150,378.03.

Although it has been known for some days that rich ore was struck in the Yellow Jacket mine, the great extent and immense richness of the deposits found was not generally known to outsiders until yesterday. This strike is one of the most important ever made in the mine or upon the great Comstock lode. It is the first very large deposit of extraordinarily rich ore ever found at so great a depth upon the lead. Two big deposits have been found,—one in the 900 and one in the 800-foot level, but the former is by far the richest, and in every respect the most important. The vein in the lower level is fully nine feet in width, and is composed of what is called "sacking ore"—ore so rich that it is not rudely shoveled and tumbled about, as is the case with that of a lower grade, but is put up in sacks and tenderly cared for. It is ore that will yield some thousands of dollars per ton, and is just the next thing to finding the silver already molded into bricks. The ore is composed of both chlorides and sulphurets, and is of a soft and crumbling nature—at least such was the character of all the specimens shown us yesterday. In the 900-foot level, about 90 feet north of the south shaft, has been found a large deposit of very rich ore, though it contains more iron and is not so much like the pure bricks as those below.

NEW MEXICO.

Central City (Col.) *Register*, Nov. 3d: Dr. Hobbs has just returned from the Cimarron mines. While he looks on that country as still a problem, he speaks in the very highest terms of some of its mines. He says he saw a single specimen weighing 12 lbs., from the surface of which $42 in gold had been rubbed from the outside, so that it could be transported without loss, and that the gold remaining and in sight on the specimen was variously estimated from $200 to $500. The surface of the specimen which produced it was six inches by ten. We learn from other sources that the lode which produced this specimen capped twice in 20 feet.

[Written for the Mining and Scientific Press.]

Smelting Operations at Owen's River---Meteorology.

EDITORS PRESS:—Mr. P. Desormeaux, of Cerro Gordo, informed me a short time since, that having been employed to run the furnace of Messrs. Belshaw & Elder, he smelted in three days fifteen tons of ore, which yielded eight tons of silver lead, containing an average of $250 in silver to the ton. And again, under date of 15th inst, he writes: "In seven days' work we have smelted 385 bars of lead, weighing about eighteen tons, containing an average of $250 per ton in silver."

All this lead is being shipped to San Francisco, at a cost for freight, of about four cents per pound. The fire-clay will stand in the furnace for thirty days.

The only serious difficulty at present encountered by Messrs. Belshaw & Elder, is the scarcity of water for the engine. This must be overcome in one of two ways; water must be carried to the ore, or the ore must be carried to the water. The first can be done for $16 per day; the second for $6 per ton. As the latter presents contingent advantages, it will, most likely, be adopted. There is no longer any question of the success of smelting operations here. Mr. Belshaw leaves for San Francisco to-day, highly pleased with the results of his efforts.

Owen's Lake, which has been rising ever since the earthquake of August 24th, continues to do so, and will apparently soon overflow at the south end.

The weather here is, at present, delightful, and from the immunity from high winds which we have enjoyed during the summer and fall, a light winter is expected.

C. H. A.

Lone Pine, Nov. 16th, 1868.

METEORS STRIKING.—When we consider that meteors and shooting stars are traversing the sky constantly in the day time as well as in the night time, though then invisible, it appears very remarkable that so few of them are seen to strike, and that damage to life or property from them is the wonder of a lifetime. At Sydney, on the 18th of August, (says a correspondent of the New York *Herald*, as the schooner Urania was passing Crowdy Head about half an hour after midnight a meteor, described as being "like a ball of fire," fell immediately over the vessel's stern, exploded with a loud report, like that of a heavy piece of ordnance, and killed the steersman, a man named Sales. Every one on board felt a violent shock like that of a volcanic battery, but no one, except Sales, was seriously injured. Sparks of the fire were scattered all about the deck, and the flash of the meteor was so brilliant that the steward, who was lying in a berth below, saw the fire through the caulked seams of the deck. His cabin was at the same time filled with smoke, which blacked some papers lying about. The paint on all the aft part of the ship was discolored, similar to what it might have been had she been "smoked with charcoal." A peculiar, indescribable smell was perceived for some time after the explosion, and a quantity of flakes like the soot from a steamer's funnel were scattered about the deck. The meteor apparently traveled with the wind, which was from the south. The body of Sales, the man who was killed, appeared to be blackened, but showed no other marks of injury.

The London Underground Railway.

This connected series of railway tunnels will be, when completed, some eight miles in length. Of the portion now open to travel, its financial success, and the difficultics attending its construction, *Engineering* thus discourses: "There are often at the same moment ten well-filled trains on the double line between Bishop's road and Moorgate street, containing three thousand men, women and children, who, so far as London above ground is conscious of their existence, might as well be in the coal cellars of their own homes. Yet in twenty minutes at the most, these thousands reappear in the streets, four or more miles from where they dived into the earth. * * * In no other capital, perhaps, in the world could the money have been found to make such a line. In no other capital, perhaps, would it have paid as the portion already open now pays, viz., £1,000 per mile per week of gross traffic, and 7 per cent. dividend upon a heavy capital account.

The underground railway has presented unusual difficulties, at almost every yard. The ground had to be studied almost inch by inch, filled as it was with the interlacing ramifications of half-a-dozen gas and water works, and the channels of the metropolitan sewers. In Park-crescent, a fine house, one in a large sweep of mansions, had to be carefully measured, its every detail drawn, then taken down, and when the railway had been completed just beneath it, rebuilt as before, and so exactly that you could not possibly distinguish it from its neighbors. The diversion of the large sewers was in many cases a delicate operation. In some instances, a 9-foot sewer is carried over, and in others under, the rails. The extension line was carried beneath the West London Railway, where the difference between the crown of the lower arch and the level of the upper rails was but a few inches, and this without the least interruption of a traffic of more than a hundred trains a day."

FOUR HUNDRED BARRELS A DAY.—The Titusville (Pa.) *Herald* says that on the 29th of September, the Vera and Blake well on the Pierson farm, Cherrytree Run, commenced producing petroleum at the rate of four hundred barrels per day, and has continued at the same rate up to date—the "biggest thing" in oildom since the days of the Fee well, on Upper Cherry Run. This well is nine hundred and fifty feet deep, and the sand rock is forty-nine feet in thickness. Pumping was commenced on the 26th or 27th ult., when the production started at the rate of two hundred and fifty barrels per day, and steadily increased.

FEMININE HOP PICKING.—Wisconsin papers describe lively hop picking scenes in the vicinity of Kilbourn, Baraboo, Reedsburg, and Oconomowac, where thirty thousand women (chiefly) were engaged, in gleeful spirits, at picking during the hop season. In ancient times women were foremost among the worshippers of the god Bacchus,—but what shall we call this? Is it a home counterpart to the pictures of adventure and gold-seeking in the west, where tens of thousands of energetic men are striving like grim devotees to attain that which never will bring them happiness?

FEELING THE PULSE BY TELEGRAPH.—The physician of a Chinese lady never thinks of such a thing as seeing or touching his patient. A string is tied around her wrist and the other end is held between the finger and thumb of the doctor, who stands outside the window in the cold. The string serves as a conductor to convey the pulsations to the *tactus eruditus* of this modern Esculapius; and having formed his opinion, and made his prescription accordingly, he takes his leave.

SORTING POTATOES.—A machine for sorting potatoes is manufactured at Freehold, New Jersey. The machine, it is stated, is of very simple construction, and performs its work at a rate of about one bushel per minute.

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W. B. EWER,.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

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MR. A. C. KNOX, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

San Francisco:
Saturday Morning, Dec. 5, 1868.

Notices to Correspondents.

CHEMICAL NOMENCLATURE.—The *rationale* of both the nomenclature and composition of many, indeed almost all organic compounds, is very little understood, even by the most profound chemists. This most elevated part of rational chemistry, chemical analysis, cannot afford any immediate indication, since its results represent each particular compound only by means of the amount of the respective elements obtained from any special compound. Their preëxistent state can only be arrived at by induction or by speculative ideas. It was the object of Laurent to reduce such phenomena by means of his "Chemical Method," to uniform and general laws. That Laurent, to use the words of Biot, has succeeded, we dare not affirm unhesitatingly; the work, however, possesses great merit, and deserves the most serious attention of the student.

IRIS.—Colored rays may be absorbed by employing appropriate media. This forms a mode of analyzing light, in addition to the prism. By the former method, Sir D. Brewster, after numerous carefully conducted experiments, arrived at the conclusion that there are only three colors of the spectrum which can justly be denominated simple, viz., the red, yellow and blue, - that these are found concentrated on those parts of the spectrum where each appears, but that they are also spread more or less over the whole, in consequence of which, orange results from a mixture of red and yellow; green from a mixture of yellow and blue; and the violet and indigo from red and blue, with a trace of yellow.

P. W., Reese River.—Amorphism is the opposite of crystallization. An amorphous body is void of all traces of crystallization; it has no power of double refraction, as many crystals have; no planes of cleavage, being equally easy or difficult, as the case may be, of separation in all directions, and exhibits when broken, not a granular, but a conchoidal fracture. According to Graham, an amorphous body contains a larger quantity of combined heat than one which has a crystalline structure.

L. S. M.—The tendency of all sciences, even those based on mathematics, is towards division. With chemistry, this appears to be specially the case, instances of which we may enumerate in the recognized but little known example, of lithurgy, or the chemistry of minerals; hyalurgy, or the chemistry of glass-making; phlogurgy, or the chemistry of combustible bodies; halurgy, or chemistry of salts, acids and alkalies; chromurgy, or chemistry of colors; zymotechny, or chemistry of fermentation, etc.

A. B., Virginia City, asks if it takes a certain amount of power to run a fly-wheel 100 revolutions per minute, what amount will it take to run it 200 per minute? The answer is: that to double the speed, power must be added equal to the square of the velocity,—that is, four times.

Practical Instruction in the Natural Sciences.

We hold that tinsel and imitation are not to be entirely condemned, since they lead us to appreciate the more that which is real. The world is not misled by them—unless it be so exceptionally, from the weakness of vanity, or from self-interest. So it is with education, of the two kinds, the ornamental and the real. Theoretical and unapplied education is little more than ornamental; like drawing, it becomes an accomplishment of value only when it is practically brought to use as in sketching from nature. The great, stupid, crocodile world, is not misled thereby, unless it be from some easily definable reason owing its cause probably to self-interest; in which case stupidity gets angry, but generally does not see where the laugh comes in.

Where so little patience is felt for anything that is not tangible and practical—amongst miners, or communities that have derived their tone from them—it would seem that the public educational institutions must be found as closely modeled as possible after the real schools of life. But it is a curious fact that where thought has become most rigidly theoretical, there instruction in what is valuable in connection with human arts and sciences, is found at once the most efficient and practical. Generalization of local details into science, is the parent of every live system of instruction. Thus schools in metaphysics, painting, astronomy, geology, etc., have arisen from time to time in history. But it is astonishing how few they were, and how simple and easily told are the fundamental principles they developed, underlying all our present knowledge.

If we are fit, and destined on this coast, to possess or to develop any living school which is to achieve advancement in a knowledge of our surroundings, and of the earth we stand upon, denominated natural science, our mining developments, if not our geological survey, will yet have to stand in the center.

In this view a visit made on Thursday to the Boys' High School, for the purpose of looking at Mr. Bradley's laboratory and mineral cabinet, proved of more interest to us than we had anticipated. More is offered at the High School in the way of facilities for practical education in mineralogy and metallurgical chemistry, than appears to be generally known.

A cabinet of minerals embracing all the leading species, is set up in a small, separate room, to which the boys have access for study, with the privilege of determining hardness and other physical characteristics; though we are unable to say to what extent they have been led in this important particular. But the facilities are unquestionably offered for the acquisition of a very complete practical knowledge of mineralogy. In larger and more special institutions there is too often a collection of many thousands of specimens, in glass cases, or with restricted access thereto, while small and characteristic working cabinets at all times accessible, are not provided; rendering the advantages for study sometimes inferior even to those offered at the High School.

If anything is wanting here it is in the instructing force. To teach mineralogy practically, in determining minerals, a teacher ought not to have more than a dozen or two students on his hands, and the less the better for the instructed. Each student has a number of minerals assigned to him for determination, with his Dana at hand, and the instructor stands by to show how the same can be done, and how all the difficulties are to be overcome. Mineralogy thus becomes a most enticing study to all who fairly begin it; for it is the science of natural combinations, of the affinities and intermarriages of the fundamental elements; and it is at the bottom of lithology, of metallurgy, and at the commencement of our knowledge of chemistry. Nature's beautiful combinations, as seen in a mineralogical cabinet, are such as to delight the eye with all shades of exquisite colors, with endless varieties of characteristic and pretty oddities of occurrence, and with forms of peculiar crystallization never varying in any given species. To know them is to know inanimate friends, which greet the eye wherever the foot treads, and underground. The miner who ignorantly digs, need not know them, except as orcs; but the man who hopes to turn them into money is not shrewd if he has not mastered both the nature of the elements in question, and the conditions which brought them together.

A Plattner's blow pipe laboratory, of the portable kind, put together by Lingke of Freiberg,—the best thing of the kind manufactured,—is at the service of students, in the mineralogical cabinet, but has not, apparently, been much used thus far. It is a perfect *multum in parvo* of chemistry by the dry process, and partly by the wet; an indispensable requisite in mineralogy as well as in metallurgy. The blow-pipe is the *eye* by which the miner and metallurgist can see what he is doing.

In another part of the High School building is the chemical and metallurgical laboratory. It is a large room filled with all the necessary appliances, mainly with a view to metallurgy,—embraced in qualitative chemistry and assaying. A cabinet of artificial oxides, etc., is a useful addition.

Comment regarding these features in the High School we deem called for in only one particular: that there is not as much evidence as there ought to be of these opportunities being freshly and constantly used. The students are there,—150 bright, ambitious-looking boys and young men, who, Mr. Bradley informs us, take much interest in the branches referred to. Whoever it was, connected with the Board of Education, that seconded Mr. Bradley's practical ideas in obtaining these facilities for the young men of San Francisco, ought therefore to see to it now that the Principal is properly assisted in making them available to those of his students showing evidences of inclination to take to that specialty. It is evident that Physics, Botany, Astronomy, and all the other general branches, cannot be efficiently and practically taught to 150 students at the same time with Mineralogy, Chemistry, Metallurgy and Geology, by one or two men.

The science and art of imparting knowledge has, in our day, attained such a stage of advancement that a world full of details may be presented to the mind of the student in a manner so methodical and in accordance with the great plan of nature, as to make all interesting, attractive, and fitted for a sure abiding place in his memory. We may all be Methuselahs by going backwards and living the Past, which is placed at our disposal; and the Methuselahs of science are, not seldom, those that also live in the future, for like begets like, as the past begets the future.

AUSTRALIAN MINING.—Under the advice of Mr. Darlington, a mining engineer who lately arrived from England, the Barra mine is to be worked in future by a system of trenching instead of mining. He has returned to England to procure the necessary machinery for the purpose. Silver mining has created much excitement in Australia lately. That country seems destined to take its cue from America.

THE ERIE THIRD RAIL.—A third rail is to be laid the entire length of the Erie Railroad between New York and Buffalo. The work will be commenced immediately. The object, of course, is to secure for the Erie Railway an unbroken narrow gauge route from New York to Chicago, both by the Buffalo and South Shore route and by the Canada and North Shore route.

Business of the Patent Office.

For the past few months the number of applications for patents awaiting examination have been accumulating, to the great annoyance of all parties concerned. In alluding to this matter, Nov. 4th, the *Scientific American* says the Commissioner appreciates the situation of affairs, and having had a few weeks rest, is determined to have cases acted upon promptly.

Judging from the new and vigorous regulations adopted since the appointment of Commissioner Foote, we certainly have reason to hope for decided improvement in the conduct of his department.

NO. OF APPLICATIONS, REJECTIONS, ETC.

From a statement furnished us by an ex-clerk, recently arrived in San Francisco, we find that the total number of applications made from April 1st, 1867 to April 1st, 1868, was 21,699; patents issued, 14,378; rejections, 7,321. The greatest number of cases awaiting action at any one time was in Aug., 1867, being 3,301. The least number on hand was 284 cases, Nov. 30th, 1867. No. on hand March 31st, 1868, 1,376. During the year the applications averaged 1,808 monthly. The rejections averaged about one-third of all the applications. (We were recently in error in stating that the rejections averaged about one-half the applications.) From 1st of April, 1868, to Nov. 1st, 1868, seven months, 7,707 patents were issued, averaging monthly, 1,101, showing an increase of 97 per month over the same period last year. This shows less increase than is noted in former years—the increase during the same months in 1867 over 1866 being 463 per month.

Last year seems to have been a season of remarkable activity among inventors in the United States, and it is not strange that the increase in patents issued for 1868 should not greatly exceed those for 1867. But California and Oregon, we are sure, will have an increased number for 1868.

DRY EARTH SEWAGE.—This system,—says a writer in the *New York Medical Journal*,—is destined soon to attract a large share of attention throughout the world from physicians, and from sanitarians generally. In public establishments,—such as jails, hospitals, etc.,—one very great source of trouble and expense, especially where there is no head of water with an abundant supply, is the arrangement of suitable water-closets, and subsequently the constant supervision and expensive repairs which they usually require. Dr. Allen, of the Jamaica Lunatic Asylum, has obviated the whole difficulty at one stroke, and not only gets rid of excrementitious matters by a very simple method, but actually makes it a source of no inconsiderable profit. He has secured this result by the adoption of the above system, which he calls the "earth closet." He found, on assuming charge of the asylum, the dormitories constantly offensive from the gases emanating from the badly constructed drains, and diseases generated thereby. He closed up all these at once, and in each closet placed a suitable vessel, and alongside a covered box of ordinary dry earth. This is the whole contrivance. A little of the earth, say two or three handfuls, are first thrown in, and after the vessel has been used the same amount is thrown over, just enough to cover it well. All odor is checked at once.

STATE UNIVERSITY.—The Regents of the University have accepted the design for a three story wooden building to cost $46,000. McClellan having declined the Presidency, that matter was recommitted. The list of professors is being made up; their first term of service is to begin next fall.

THE MERCANTILE LIBRARY FAIR season was brought to a close last evening by a grand masquerade ball. The institution has profited several thousand dollars.

Valuable Invention to Facilitate Brick-Making.

Several years ago, when petroleum springs and asphaltum deposits possessed the extraordinary power to charm wanderers from their path,—ranchmen from their routine duties, idlers from the hotel paradises of San Francisco, and all the carburcted hydrogenists in the country out of their laboratories, a party of men provided with some of the appliances for exploiting and testing petroleum, "might have been seen," gathered at ease around a cheerily smoking camp-fire in a ravine on the seaward slope of the Coast Range in San Mateo County; one of whom was amusing himself by throwing stones into the fire, and looking after the same as if to observe the effect it would have upon them. They were chalk-like, fine-grained, marly sand-stones, such as constitute the tertiary rocks of the Coast Range in these parts. One of these stones, being rolled out of the fire after it had become heated, was observed to emit a light blaze for half a minute or more after it left the fire. Subsequently it was discovered that the stones in almost any of the ravines from Half Moon Bay to Santa Cruz would exhibit a similar phenomenon. The rocks are saturated with mineral oil, which sometimes requires as much as ten minutes to burn out; and at first glance at the results in the fire, one might be led to mistake them for a very promising quality of coal. Brown coal or lignite *does* exist everywhere in the Coast Range in small seams of from one to three inches in thickness, from San Francisco to Los Angeles; a mine of the same being located about three miles from San Francisco on the road to the Ocean House, and Mr. John Centre, of San Mateo County, has found veins of excellent coal in San Mateo County, though not in quantity; so that the brown coal and petroleum in the Coast Range probably have some relation to each other.

One of the party above referred to was Mr. Silas H. Bowman, ranchman and brick-maker, of Half Moon Bay. A long time afterwards, when petroleum drills and derricks had utterly departed from the imaginations of the speculative, he set fire one night to a fresh-made kiln of bricks, composed of clay taken from a new locality, and retired. The ordinary time required for burning brick is twelve to fifteen days. Next morning he saw a keen blaze over the top of the kiln, which soon subsided, and to his surprise, on examination, the operation of burning was found to be completed. The cause was not immediately suspected—not until after a rain, in which water and oil were observed to have collected in the horse tracks on the clay bank. Analysis disclosed that the entire soil was impregnated with mineral oil.

The immense advantage of this mixture to facilitate brick-burning, was apparent. But the idea was carried beyond the confines of Half Moon Bay, and tried at the town of San Mateo, and at the State prison brick yards, with purchased crude petroleum, which is very cheap ($5 per barrel) in this market. The result, after a careful estimation of the economics of the question, was that a saving of two-thirds of the cost of burning brick could be effected by this process, no altcrations whatever in the kilns or in the method of burning, being necessary. Another effect of the use of this oil is that the bricks do not dry out so as to crack before burning, or get dry on the surface while they remain moist inside.

Crude, heavy, black, viscid petroloum, such as is thrown away in California, is the article used. It is mixed first with water, and applied with that in grinding the clay in the pug mill, or with the spade, or oxen, in from three to ten gallons per thousand brick. Wood costs in California about $5 per thousand brick, when used in the ordinary manner; with oil intermixed with clay, the entire cost of burning, including both wood and oil, is $1.50 per thousand brick. Tests of 150,000 brick in a kiln, at a time, have resulted in about these figures; and different kinds of clay have been found to answer equally well, in burning five different kilns; 500,000 brick having been burned in this manner.

The process having been patented by Mr. Bowman, through the MINING AND SCIENTIFIC PRESS PATENT AGENCY, we quote the following from his specification:

I first saturate the clay with water before it is ground in the usual way, and add to it from three to ten gallons of crude petroleum, and from 200 to 400 pounds of peat. The quantity of oil or crude petroleum and peat to be added, should in all cases be governed by the quality of clay used. Where it is entirely argillaccous or pure alumina, a greater quantity of oil and peat may be used; where it is principally a clayey loam, similar to the earth employed in California where my experiments have been performed, a less quantity of petroleum and peat is necessary, and I find that four, and even three, gallons will answer very well, and 200 pounds of peat for the manufacture of 1,000 brick.

As the burning of bricks is a matter of considerable difficulty, and requires an experienced workman, it may be said to be none the less so in the use of my improvements, as it is necessary to maintain an equal heat throughout the whole mass, and the fire should be kindled simultaneously in all parts of the kiln, and be driven as rapidly as possible through it, so that the steam and vapors will not be driven to portions of it where there is no flame or heat. The fuel to be employed may be wood or coal.

TO ARCHITECTS, ENGINEERS AND OTHERS. The Earthquake Committee offer a complimentary premium, a piece of plate (value $250) or that sum in coin, for the best plan for bracing and strengthening against earthquake shocks brick buildings, in the original construction of which needful precautions have not been taken; also a similar premium for the best plan for preventing the racking of wooden dwelling-houses, from the same cause, which are already erected.

Preference will be given to plans which can be adopted with the least inconvenience to occupants, the bracing in which "other things being equal," shall present the least objectionable appearance. The plans and specifications submitted are to be exemplified by diagrams, showing in the first case a brick store "25x60 feet" of three stories and basement, with chimneys, situated in a block, braced, as recommended, bearing in view the fact that adjoining property-holders may object to their walls being touched. And in the second case, a detached frame building "25x50 feet," having openings on front, sides and rear, with chimneys eight feet above the roof.

Plans to be scaled and accompanied with a fictitious signature, addressed to General Alexander, U. S. A., Chairman of Sub-Committee on Structural Designs, Chamber of Commerce, San Francisco.

All plans and designs, will be opened simultaneously on the 21st day of December, 1868.

The Committee reserve the right to reject all the plans submitted if not deemed sufficiently meritorious.

GEO. GORDON, Pres. *pro tem*,
Joint Committee on Earthquakes.

SETTING OFF BLASTS BY ELECTRICITY.—When a large blast consisting of a number of charges, in tunnels made for the purpose, is to be set off, the electric battery affords the best, and the cheapest, because the most efficient, means of ignition. The ebonite battery, which has been used for the purpose, is a little contrivance about the size of a door lock, having a crank the turning of which several times round, generates electricity enough to set off the charges to blow up a mountain. When all is ready, a stop is touched on the battery, and the explosion is instantaneous. Wires lead from the battery to the several charges, in which there is imbedded a little cartridge of fulminating powder, to set fire to the whole mass of powder at once. The following composition is recommended for this purpose by Dr. C. T. Jackson, of Boston, and is probably similar to that used at Hoosac Tunnel, where the ebonite battery is also applied:

Chlorate potash	600 grains.
Sulphuret antimony	250 "
Sulphur	5 "

It is pulverized separately and mixed with a spatula.

Earthquake Committee.

EDITORS PRESS:—Allow me to make a suggestion through your practical paper to the gentlemen who compose the committee for investigating the effects of earthquakes, which will really benefit this community, and give fair play for all opinions. A competition by treatises, as to the *best and cheapest methods for lessening and preventing its damaging effects* on dwelling houses, etc., it strikes me would accomplish the end in view most surely.

Offer from two to five prizes for public competitors,- say of the values of $2,000, $1,000, $500, $250, and $125,—for pamphlets from residents in this State, setting forth practical ideas for builders, to better resist the shocks of earthquakes, their respective merits to be judged by a well-chosen committee for that purpose, who are not competitors for the prizes. This will lead to the obtaining of all the best ideas on this subject, which is of far more value to us than theoretical inferences as to the cause of the phenomena, that will but follow the ineffectual reasonings of the best intellects of present and past ages.

Since writing the above, I have seen a somewhat similar advertisement from the said committee, in to-day's *Alta California*, but the prize offered is so contemptibly small ($250), and that, too, in the form of "plate," that considering how many should be encouraged to contend for it, and the extent of the work required, it will lead to nothing really beneficial to the public.

CORNUCIA.

San Francisco, Dec. 3d, 1868.

THE FINGER OF GOD.—A sermon thus entitled, by the Rev. A. L. Stone, has been published by request, in pamphlet form; having been delivered on the Sabbath morning after the earthquake of Oct. 21st. It is a fine effort to draw moral lessons from dangers ever impending and unavoidable.

ANOTHER CABLE.—A French company has been organized to lay a cable from Marseilles to Corsica, which will probably be extended to Algiers, and ultimately along the north coast of Africa to Suez.

THE NEW ENGINE in the Opbir mill, at Grass Valley, is 80-horse-power, instead of 18-horse-power, as was reported.

A GREAT many side hits are being made at the PLANTATION BITTERS by a score or two of disinterested friends, who are endeavoring to imitate or counterfeit them. It is all of no use. The people won't be imposed upon. PLANTATION BITTERS are increasing in use and popularity every day. They are in the same sized bottle, and made just as they were at first. They make the weak strong, the languid brilliant, and are exhausted nature's great restorer. The recipe and full circulars are around each bottle. Clergymen, Merchants, and persons whose sedentary habits induce weakness, lassitude, palpitation of the heart, lack of appetite, liver complaint, etc., will find immediate and permanent relief in these Bitters. But, above all, they are recommended to weak and delicate females and mothers.

SULPHURETS and rich Rebellious Ores are wanted in this city, by ROBT. TAYLOR & CO. See advertisement in another column. 17v17tf

RETURNED.—Dr J. H. Paine, Dentist, Wadsworth House, No. 225 Bush street, between the Occidental and Cosmopolitan Hotels, San Francisco. 21v17-4m

CO-OPERATIVE UNION STORE.—This is becoming one of the most useful institutions in the city, and the Mechanic and Laboring Man fully appreciate it.- They are now enabled to buy their Groceries and Provisions 20 per cent. cheaper than ever before, and the very best articles in the market. The store is located at 115 Sutter street, Lick House Block, San Francisco 23v17-nym

SAVE YOUR TEETH.—Drs. Jessup & Beers, over Tucker's Jewelry store, are now making a specialty of filling the fangs of dead Teeth, and building up broken crowns with *pure gold*—thus restoring them to their original usefulness and beauty. They are also using Nitrous Oxide for the painless extraction of Teeth, when so desired—the only absolutely safe anæsthetic ever discovered In breathing it, it acts as a gentle stimulant, without undue excitement,—the sensation produced being truly delightful, the effect upon the lungs healthful, and in its results positively free from all danger. Prepared and administered daily at the Dental Rooms of Messrs. JESSUP & BEERS, corner Montgomery and Sutter streets, San Francisco. 16v16tf

WHERE TO ADVERTISE.—The attention of traders and mill machinists is called to the fact that the *Mountain Messenger*, of Downieville, Sierra County, possesses many special advantages as an advertising medium over a majority of the interior press, it being the only public journal published within a radius of sixty miles, in the richest and most populous mining sections of the State. Its weekly edition is double the average of country papers, being without the range of large dailies, and having no competition at home. Its local columns afford many items for our city cotemporaries, while its rates of advertising are reasonably low. 10v17tf

Builders' Insurance Company—OFFICE IN THE BUILDING OF THE CALIFORNIA SAVINGS BANK, California street, one door from Sansome street.
☞ FIRE AND MARINE INSURANCE. 10v14t9pqr

PACIFIC
Rolling Mill Company,
SAN FRANCISCO, CAL.
Established for the Manufacture of
RAILROAD AND OTHER IRON
—AND—
Every Variety of Shafting,
Embracing ALL SIZES of
Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames
—ALSO—
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Of every description and size.
☞ Orders addressed to PACIFIC ROLLING MILL COMPANY Post Office, San Francisco, Cal., will receive prompt attention.
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FOR SALE,
A Machine for turning Broom Handles.
Will be sold low, as we have no further use for it. Apply at the Wooden Ware Factory of
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A variety of new and valuable Patents for sale, novel and useful articles, suitable for TRAVELING AGENTS, always on hand, among which are the following:
Patent Cigarette Roller, and patent gummed Wrappers for the same. Every one can make their own Cigarettes. Price $2.50 (including 400 wrappers.)
Wilson's Patent Solder, for mending tin ware without soldering iron, prepared for family use. Retail price 50 cents.
Elliptic Steel Scrapers, for cleaning boiler tubes (all sizes)—best thing ever invented for the purpose. Retail prices from $8 to $10.
AGENTS WANTED.
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2-v17tf

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Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10qy-tf

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Among other things, we manufacture the following:

STEAM ENGINES,

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BOILERS—High and Low Pressure,

Pump, Pipe and Sheet Iron Work of every kind.

Quartz Mill Work,

Including High and Low Mortars, for wet or dry crushing; Furnace Irons for Roasting Ores; Freiberg Barrels; Varney's and Wheeler's Amalgamating Pans and Settlers; Stamp Shoes and Dies of best White Iron; Russia Iron Screens, etc., etc.

Flour Mill, Saw Mill and Sugar Mill Work in every variety; Pumping and Hoisting Machinery; Hunsbrow's Patent Challenge Pump, for Domestic, Ship and Mining use—the most approved and successful Pump manufactured.

Castings of every description, Iron and Brass.

We would call especial attention to "Wright's Patent Variable Cut-off Engines," of which we are the sole manufacturers on the Pacific Coast, under license from the Woodruff & Beach Co., Hartford, Ct. As a simple, effective, fuel-saving, first-class Engine, this is, without doubt, the best Engine made in the United States.

Orders promptly attended to. Prices as low as possible for first class work, and we intend to do no other.

GODDARD & CO.
San Francisco, May 1, 1868. 18v16tf

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ALL KINDS of Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.

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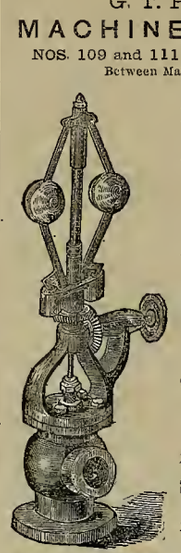
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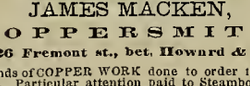
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DESTRUCTION OF FOREST TREES A SERIOUS MATTER.—The Sept. number of the *American Journal of Horticulture* has an article by John L. Russell, entitled "Some Notes on the Coniferæ of California." The redwood, *Sequoia Sempervirens*, is the last species named; and Mr. Russell concludes with some remarks upon its threatened extinction. He says: "The value of these majestic living organisms as bearing upon the features and conditions of the regions they inhabit, is well considered by Mr. Bolander, who asserts that a great benefit derived from the redwood forests is the effect which they have of condensing fogs and mists,—turning them into rain, wetting the soil, and furnishing the supply of the springs for the dry season. It is my firm conviction, that if the redwoods are destroyed,—and they necessarily will be if not protected by wise action of our government,—California will become a *desert* in the true sense of the word. It remains to be seen whether we shall be benefited or not by the horrible experience such countries as Asia Minor, Spain, and France have endured from having barbarously destroyed their woods and forests. No power on earth could restore the woods of California when once completely destroyed.

SCIENCE AT FAULT.—The Paris correspondent of the London *Times* alludes to Prof. Liebig's new chemical substitute for mother's milk, as follows: "This preparation was tried here in Paris on but four children, and these four it killed—two in three days, and two in four days. The experiment was made at the Lying-in-Hospital of Dr. Depaul, professor of clinical obstetrics of the faculty of Paris, and the children selected were those abandoned by their mothers. The artificial milk quickly brought on bilious purging and prostration. Of course, Prof. Leihig declaims loudly against the fairness of the experiment; but Dr. Depaul is a competent judge, and the whole Academy of Medicine, after a fair report from the chemists in their body have decided not to take the responsibility of a further experimentation with so dangerous a compound. 'What is the use,'—the Academy judiciously says,—"since we have in our hands so excellent a substitute, and so nearly analogous a substance, in cow's milk with the addition of a little water and sugar."

GRAIN FARMING.—The San Justo rancho of 21,700 acres, in Monterey County, has been sold by W. W. Hollister for $370,000, at the rate of about $17 an acre, to an association of fifty farmers, who have equal shares. Each is to have a homestead of 172 acres; 160 acres are to be reserved for the site of a town, to be called San Justo; the homestead of Hollister with 200 acres is also to be reserved; and the remainder, about 12,700 acres, is to be sold for the benefit of the Company. Most of the land is very fertile, and it is within twelve miles of Gilroy, so that the farmers can conveniently haul their grain to the railroad and return in a day.

The greater part of the Santana rancho, of about 24,000 acres, and a portion of the San Felipe rancho, of 44,000 acres, both in Monterey County, have been sold to grain farmers, so the sheep are being crowded away.

WATER BLASTING.—Blasting with powder is always extremely dangerous in mines with fire-damp, as the explosion of a charge has often been the cause of an explosion of gas. In order to avoid this danger, M. Guibal substitutes the pressure of water for the explosion of powder in splitting rocks. He employs an india rubber cartridge, which is introduced into the hole and filled with water. The water is then compressed to a certain number of atmospheres by the aid of a cylinder, the piston of which is worked by a compressing screw. Before the pressure of the water the rock splits without being projected, and the same hox or cartouch may serve many times.—*Colliery Guardian.*

SUBSTITUTE FOR BUTTER FIRKINS.—In Oregon butter is packed in muslin sacks, made in such form that the package, when complete, is a cylinder three to four inches in diameter, and from a foot to a foot and a half in length. The packages are then thrown into large casks containing strong brine, with a slight admixture of saltpeter, and by means of weights kept below the surface. The cloth integument protects the butter from any impurities that chance to come in contact, and being also protected from the action of the air, it has been ascertained by trial that butter put up in this way will keep sweet longer than in any other way.

CURIOUS FACT IN TELEGRAPHY.—The cable crossing the Mississippi at Memphis, one of the most perfect ever laid in the country, (originally made for the Red Sea) has been working irregularly for some time past. The *Appeal* says: "At intervals no communication could be had for hours, and all at once it would revive and the fluid pass through it as usual. This state of affairs contianed for several weeks, and at last communication ceased entirely. After several ineffectual attempts to revive it, it was determined to raise it and find out the reason for the cessation. By tests the trouble was found to be withiu a space of 20 yards between the points. This piece was cut out, the two ends spliced and the cable then worked as well as ever. The piece cut out was examined; and it was found that about four inches of the conducting wiro had been burned out, and was gone completely. It is supposed that a severe shock of lightning had passed along the land line of wires, and had left them and followed the cable, burning this piece out in its passage. Many theories are advanced by the gentlemen connected with the telegraph office hereas to the explanation of this remarkable phenomenon. The only one which is at all satisfactory is that of Col. Coleman,—that a slight conuection was formed between the burnt ends of the conductor by moisture which had penetrated the cable in sufficient quantities to keep up the circuit; there being a battery on the Memphis end strong enough to drive the electricity through at iatervals."

THE BEST VELOCIPEDES.—The Paris correspondent of the *Artizan* says: "For short distances and speed the two-wheeled velocipedes are the best; for long distances and speed, the three-wheeled ones; for longer distances with comfort and speed, the four-wheeled; that is to say, the two-wheeled are the most fatiguing, requiring great effort to keep erect, and have been considerably condemned by physicians; and therefore in long rides (between men of equal strength and practice) the three-wheeled generally win, while it is equally true that in the longer races the four-wheeled are the winners. The two-wheeled velocipedes have to be made so much stronger to stand the twisting and hard usage that they are full as heavy as the three-wheeled ones. The two-wheeled and three-wheeled kinds weigh about alike—50 or 60 pounds.

THE mining interests in Mexico are looking up, and in fact the prospects are brighter than ever before. A law has lately been passed by the general government allowing bullion and coin to be shipped out of the country at 2½ per cent. Seven American companies are taking out at the present time over $1,000 per day. Barney and others have cut in the San Miguel tunnel a vein three yards wide, paying $6,000 to the ton, between wall-rocks. Their best class of ores in said vein pays $17,000 in silver to the ton. The writer has seen several hundred pounds of this ore, and can testify to its richness.—"*M.*," *in the Bulletin.*

IMMENSE BALLOON.—A balloon four times as large as the largest ever previously made, and containing 350,000 cubic feet of gas, has just been constructed in Eagland. It is ninety feet in diameter, and capable of raising a load of eleven tons. Its cost was about one hundred and forty thousaad dollars. It is connected with the earth by a cable two thousand feet in length; and for this reason is named by its owner "The Captive." This cable is wound around a drum which is worked by a steam engine. It is owned by a company of Frenchmen. Thirty persous at once have made the ascent in it.

GRASSHOPPERS.—The grasshoppers were so thick on the Missouri Valley Railroad track, betweeu St. Joseph and Savannah, Andrew county, on the 4th of August, as to delay the morniug train two hours. The conductor was compelled to stop several times and have dirt thrown on the rails, so greasy were they from the remains of the crushed insects.

ETHNOLOGICAL.—Recent disclosures, proving positively the existence of a slave trade between the South Sea Islands and Queensland, have caused an influential committee to be appointed to call the attention of the English authorities thereto.

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The FIRST thing required is a model, if your invention can be represented by one. It is not only immediately necessary in preparing tho papers, but the law demands that the inventor shall, in all cases, furnisb a model, which must not exceed twelve inches in any of its dimensions. A model of less size will answer when more convenient. It should he neatly made, and of hard wood or metal, or both, varnished or painted; the name of the inventor should be engraved or painted oa it in a permaaent mnnner.

When the invention consists of an improvement on some known machine, a full working model of the whole will not be necessary. It should he sufficiently perfect, however, to show, with clearaess, the nature nnd operation of the inventioa.

As soon as the model is ready, it should be carefully boxed and shipped by express, or otherwise, to our address, namely: DEWEY & CO., *Mining and Scientific Press, San Francisco.* Prepay expenses and send express receipt to us by mail.

A full description must also be sent with the model, embodying all the ideas of the inventor respecting the improvemcat.

Simultaneously with the model, the inventor should send us the first instalment of the Government fee, fifteen dollars. The money may be forwarded either by express with the model, or hy mail. The safest way to remit is by draft on San Francisco, payable to our order. Always send a letter with the model, and also the remittance, stating the name and address of the sender. On receipt of the model and Government first fee of $15 in currency, the ease is duly registered on our books, and the applicatioa proceeded with as fast as possible. When the documents are ready we send them to the inventor by mail, for his examination, signature and affidavit, with a letter of instruction, etc. Our fee for preparing the case is then due and will he called for. The case will then be presented to the Patent Office, and as soon as the patent is ordered to be issued the Goverament last fee of $20 in currency will be required. The law states that every pateat shall be dated as of a day not later than six months after the time at which it was passed and allowed, and notice thereof sent to tho applicant or his agent. And if tho final fee for such patent be not paid within the said six months, the patent shall be withheld, and the invention therein described shall become public property as against the applicant therefor.

Inventors who do business with us will be notified of the state of their application in the Patent Office, when it is possible for us to do so We do not require the personal attendance of the inventor, unless it is one of great complication, as the business can be well done by correspondence.

When the invention consists of a new article of manufacture, a medicine, or a new composition, samples of tho separato ingredients, sufficient to make the experiment, and also of the manufactured article itself must be furnished, with full description of the entire preparation.

The average time required to procure a patent, when the case is conducted at our ngency, is ten weeks. We frequently got them through in less time; but in other cases, owing to delay on the part of Government officials, the period is sometimes extended to four or five months, and even more. We make a special point to advance our cases as rapidly as possible.

Advantages to Patrons of Our Agency.

Some of the advantages to be obtained by patronizing us may be enumerated as follows:

1. Inventors oa this coast having their applications for patents made out through our ngency, can sign their papers at oace, and thus secure their rights at least *three months sooner* than by trusting the samo to distant agencies, situated at New York or Washington.

2. As many of the inventions conceived here are especially adapted to the Pacific coast, they should be properly brought out here, which can he accomplished (if the iavention is a meritorious one) by illnstrating the subject, with a careful description, in the columns of the MINING AND SCIENTIFIC PRESS, *free of charge;* the inventor paying simply for the engraving, which will be executed at a moderate charge. The same cuts can be subsequently used for books, letters or circulars. In a word, we are determined to make it of decided interest for every inventor on this coast to patronize home talent and enterprise.

3. Most inventions on this coast are for objects and purposes but little understood by parties at Washingtoa or other parts of the East. Our mining machinery, processes and operations are best understood by those familiar with their use; and a personal verbal explanation is oftentimes of important service, and enables us to be more successful than agents generally.

4. Remittances of money made by individual inventors to the Government sometimes miscarry, nnd it has frequently happened that applicants have not only lost their money, but their inveutions also, from this cause and consequent delay. We hold ourselves responsible for all fees entrusted to our agency. By sending duplicate correspondence to our Washington agent we avoid hazardous delays.

Self-Evident Facts.

Having had large experience, and gratifying success with the great variety of cases emanating on this coast, we feel confident of our abilities to assist inventors in patenting their inventions, saving them from vexations delays, and from receiving worthless papers by reason of imperfect preparation of their claims before being sent to the Patent Office.

Tbe branch of Patent Law is of itself a SPECIALITY of legal jurisprudence; or, as Mr. Phillips, an eminent patent lawyer, justly remarked: "Tbe metaphysics of the law."

In early days hut little preparation was needed, or but ordinary skill required to obtain a patent; but now, by reason of the multiplicity of inventions, and the numerous Acts of Congress, found necessary to protect the inventor while the patent lasts, and to do justice to the people after it expires, the utmost care and skill are requisite in managing cases and obtaining a patent that will be of real value to the Patentee, and stand the test of passing through the legal ordeal of aa infringement suit.

The general practice of the Patent Office regarding the examinntion or issue of Letters Patent for inventions has not been materially changed for many years, yet there have been amendments added to the laws of 1861, 1863, and 1866, and which it is necessary for nll parties managing aa application to be conversant with. Old inventors invariably advise the employment of none but agents of *responsibility* and *experience.* As agents with such qualifications, we solicit bonest patronage.

Candid Reasoning.

A gentleman eminent for his ability in all points pertaining to specifications, gives inventors the following sound advice:

To properly prepare a specification may seem a very simple and easy task, but such is not the case. It requires a knowledgo of the arts, of scicnee and scientific terms, and their proper use—of mechanics and the principles that govern their action—of law, and of the grammatical and legal force and construction of language, wbich is possessed by but very few persons.

Lawyers seldom possess the mechanical knowledge, while mechanics still more generally lack the legal knowledge necessary to enable them to properly prepare a case for examination.

It requires such a *combination* of legal and mechanical knowledge, together with a special knowledge of the principles and rqles that govern the action of the office, that no person is really competent to undertake tho business but those who *have made it a study, or had experience at it.* In view of these facts I unhesitatingly advise every person who has an invention worth patenting to get some responsible and competent agent to attend to it for him.

No person scarcely would think of entering upon a suit at law without employing a lawyer to attend to it, and make out his papers for him; and if a sensible man would aot do that, much less would he attempt to prepare an application for a patent without knowing anything about the business.

I am awnre that persons frequently attempt it, but I am also aware that *many lose their patent simply in consequence of not having their case properly prepared, or not knowing how to amend it so as to avoid the references given when once rejected.*

Besides this, many times when they succeed in obtaining the patent, they find afterwards that it will not stand in law, or does not cover their iavention, and is therefore useless. It is for this reason that many applicants are compelled to reissue their patents at as great, and often greater expense, than the obtaining of the original.

Hence I repeat, every person having an invention worth patenting should employ a competent and responsible agent—I say *competent and responsible,* for, unfortunately, there are many who are neither competent nor responsible.

Caveats.

A cavcat is a description of the invention designed to be patented, lodged in the Patent Office before the patent is applied for, and while the inventor is perfecting his design. When *properly* made, it operates as a bar to applications respecting the same invention from any other quarter; but when improperly done, it is inoperative by reason of such defect. The Patent Office always returns a receipt for cavcat papers with a copy of the laws governing the same, but does not seek to point out its incorrectness, unless there be some glaring defect.

If worth filing at all, these cases should be prepared with very great care and caution.

One intentor on this Coast, who had filed a cavcat by an attorney, was, sometime afterward, surprised to find that his invention, which was a very important one, had been patented and was being brought out by an eastern company with a capital of more than a million of dollars. Upon inquiring at the Patent Office, he was informed that his cavcat was inoperative by reason of imperfections and his not having complied with the law in that case as made nud provided.

Our fee for a cavcat varies from $10 to $15. Tho Government fee is $10.

Inventors will oftimes find it very important to take advantage of the cavcat system—the expense under the law being comparatively small.

To enable us to prepare cavcat papers, we only require a sketch and description of the invention; no model being necessary.

If an inventor publicly uses and sells his invention, prior to making application for a patent, he cannot, afterward, prevent others from doing the same thing; and should any party put the invention into use, before such application for a patent is made, they could continue to use the specific machine or composition, no matter after the patent is issued to another. Filing a cavcat does not give the right to affix the words, "Patented, or "Patent applied for."

Saving of Time.

In urgent cases for an immediate patent, persons can deposit the amount of the last fees with us, in San Francisco, and have our Washington agent procnre the *issue* of the papers as soon as granted, saving the two or three months time which would otherwise be required for the inventor to receive notice aad then forward the money. Money advances for this purpose will be returned, should the application be rejected. By adopting this course, we are enabled, with our other advantages, to secnre the *receipt* of patent papers to inventors on this Coast, at least four or five months sooner than can be done through agents in the East, without the applicant going to the hazardous expense of sending on the last fee before it is known wbether the patent will be granted.

What Claims can be Patented?

A knowledge of Ancient and Modern Mechanics and familiarity with American and Foreign patent issues and rejections, enables us to determine in a measure in all cases what can be patented, and how much can be claimed as new and novel, and be covered by Letters Patent. This is one of the most difficult questions encountered by both old and new inventors—one in which an experienced counsel is of great service—and yet it can never be positively determined except hy presenting a formal application for a patent to the Government, embracing a petition, specification, model, duplicate drawings and payment of the first governmeat fees.

Patent Rejections.

FIRST. Refusals nre nlways made by the Patent Office if there is any informality in the specification, or if it does not contain the entire subject matter of the invention, and is not properly arranged and stamped. A slight omission often proves fatal.

SECOND. If the drawings are defective, and are not executed in an nrtistic manner in Indin ink, and on sheets of the requnred size, they are subject to rejection.

THIRD. Applications are always rejected where the claims conflict with others already patented.

If the rejection should be an unjust one—which sometimes happens—it can generally be reversed, and the patent obtained by contesting the case.

For the prosecution of such cases, obtaining references, making arguments, and personally nttending to explain the enso (through our agent in Washington), *we charge no second fee,* as is the case with somo agencies, but attend to tho business till finally allowed or twice rejected, without extra charge beyond the Government fee.

Inventors who havo rejected cases, prepared either by themselves, or for them by other agents, and desire to asertain their prospects of success by further efforts, are invited to avail themselves of our unsurpassed facilities in securing favorable results. We havo been successful in securing Letters Patent in many such cases. Our terms are very moderate.

Dangers of Delay.

Situated so remote from the seat of Government, delays are even more dangerous to the inventors of the Pacific coast than to applicants in the Eastern States. Valuable patents may be lost by the extra time consumed in transmitting specifications from Eastern agencies back to this coast for the signature of the inventor, or by reason of return for amendment when addressed directly by the iaventor to the Government.

Expense of Applying for Patent.

The Government fee, on filing an application for a patent in the United States, is fifteen dollars; and if the patent is allowed, twenty dollars additional is required. If rejected, the first fee of fifteen dollars is all that is demanded.

To the foregoing official fees must be added fees for preparing the various documents and expense of drawings. Our charge for preparing a case, presenting it to the Government, and attending to all busiaess connected with it, varies from $20 to $40.

Following is the list of Governmeat fees, payable ia currency:

On every caveat	$10
On every application for a patent, for seventeen years	10
On every application for a design, for 3 yrs and 6 mos	15
On every application for a design, for seven years	15
On every application for a design, for fourteen years	30
On issuing each original patent	20
On filing a disclaimer	10
On every application for a re-issue	30
On every additional patent granted on a re-issue	30
On every application for an extension	50
On the grant of every extension	50
On appeal to the Examiners-in-Chief	10
On appeal to the Commissioner from Examiners-in-chief	20
On every appeal to the Judges of Circuit Court, D. C.	25

Illustrate your Inventions.

Too many ingenious inventors lose the value of their genius and labor by not bringing their improvements conspicnously or plainly enough before the public—the general reading public.

One of the best means—and the cheapest, too—for eliciting attention to a new invention, is that of illustrating and describing it in tbo columns of the MINING AND SCIENTIFIC PRESS. To do this ia the case of a meritorious improvement (and none other will be accepted), will cost our patrons no more than the price of a first-class engraving.

With a cheap representation wo will have nothing to do, as it would be calculated to injure both the inventor and ourselves.

We also take especial pains in furnishing engravings and electrotypes of superior merit, of all kinds, at fair rates, and tender our patrons the benefit of our practice and experience, by advice and assistance, in getting up their circulars, advertisements, etc.

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Our mining summary and weekly stock report gives the latest news from the most important mines and mining districts throughout the Pacific States nnd Territories.

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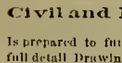
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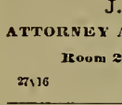
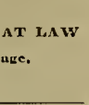
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To Miners.—William H. Murray, traveling agent for the Mining and Scientific Press, published by Dewey & Co., of San Francisco, is in town soliciting subscriptions for that paper. To the intelligent miner, a paper like the *Press* is particularly valuable, keeping him posted on the latest discoveries in reduction of ores, new machinery, etc.—*Grass Valley National.*

New Mining Advertisements.

Great Central Mining Company.—Location of Works: Yuma County, Arizona Territory.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the ninth day of October, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount
P Calnan	196	10	$25 00
Wm H Cleveland	313	25	62 50
Mrs Ann G Cummings	235	25	62 50
Jas H Foster	94	100	250 00
Jas H Foster	141	10	25 00
Jas H Foster	142	20	50 00
Jesse Gelb	73	25	62 50
Jesse Gelb	74	25	62 50
Jesse Gelb	75	20	50 00
Jesse Gelb	76	10	25 00
Jesse Gelb	78	10	25 00
Jesse Gelb	79	5	12 50
Jesse Gelb	80	5	12 50
S R Harris	293	50	125 00
S R Harris	299	50	125 00
S R Harris	318	20	125 00
Jas Kellogg	175	50	125 00
A J Jeghers	3	5	12 50
A J Jeghers	4	5	12 50
A J Jeghers	5	5	12 50
A J Jeghers	6	5	12 50
A J Jeghers	7	5	12 50
August Ludorff	244	10	25 00
Daniel McLeod	290	90	225 00
Jno R Mason	178	10	25 00
Camillo Martin	267	20	50 00
Ford R Rogers	329	65	162 50
Louis Vesaria	319	25	62 50
Louis Vesaria	320	24	62 50

And in accordance with law, and an order of the Board of Trustees, made on the ninth day of October, A. D. 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at their salesrooms, No. 426 Montgomery street, San Francisco, on the thirtieth day of December, A. D. 1868, at the hour of 4 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

O. D. SQUIRE, Secretary.
Office, No. 414 Montgomery street, San Francisco dec5

Senator Silver Mining Company.—Location of Mine: Virginia City, Storey County, State of Nevada.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the second day of November, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificates.	No. Shares.	Amount.
Blake, Wm	63, 64	45	$22 50
Bell, Joseph	7	15	7 50
Barry, Robt	89	30	15 00
Carroll, J C	16, 17, 18	150	75 00
Corbett, John	25	60	30 00
Corcoran Wm	not issued	320	160 00
Downey, J P	58	5	2 50
Dillon, P W	32, 33, 34	150	75 00
Edwards, A L	4	30	15 00
Freeman, B H	14	23	11 50
Farrell, William	not issued	30	15 00
Keene, Jessie F	1, 2	30	15 00
Hedicky, Michael	26	30	15 00
Hamill, John	66, 67	30	15 00
Hernan, Frank	69	30	15 00
Mahony, Martin	10	15	7 50
McMahon, Miss M	39	15	7 50
Macdonald W W	43	22	11 00
McMahon, J M	not issued	15	7 50
Neenan Andrew	12	15	7 50
Neagle, Wm	...bal 56, 61	1393	696 50
Ockel, Chas	31	30	15 00
O'Donnell, Daniel	30	15	7 50
O'Neil, Margarette	46	30	15 00
Prendergrass Wm	9	15	7 50
Perry, B F	87	5	2 50
Quigg, Chas	27	15	7 50
Schoeneman, Henry	5	15	7 50
Stiel, Michael	not issued	30	15 00
Wood, Bartholomew	36	30	15 00

And in accordance with law, and an order of the Board of Trustees, made on the second day of November, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, Cal., on the twenty fourth day of December, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINCARD, Secretary.
Office 408 California street, San Francisco. dec5

Mining Notices—Continued.

Ahmo Gold and Silver Mining Company.—Location of the Mine, Lyon County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fifth day of November, 1868, an assessment of twenty five cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, No 319 California street, (Room No 5 Hayward's Building) San Francisco.

Any stock upon which said assessment shall remain unpaid on thirty-first day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the thirtieth day of January, 1869, to pay the delinquent assessment, together with cost of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. POPE, Secretary.
Office, No. 319 California street, (Room No. 5) San Francisco. no28
☞ Gold Hill News copy and send bill to this office.

Cordillera Silver Mining Company, Morelle District, Chihuahua, Mexico.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the sixteenth day of October, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Dickson, John	147	21	$21 00
Dickson, John	167	5	5 00
Alfred Harris	135	5	5 00
Alfred Harris	137	5	5 00
Alfred Harris	143	8	8 00

And in accordance with law, and an order of the Board of Trustees, made on the sixteenth day of October, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on Monday, the seventh day of December, 1868, at the hour of 12 o'clock M of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

HENRY R. REED, Secretary.
Office, 321 Washington street, San Francisco. no21

Chipionena Mining Company—District of Ures, Sonora, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixth day of November, 1868, an assessment of two dollars and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, No. 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eleventh day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-eighth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOUSE, Secretary
Office, 318 California street, up-stairs, San Francisco. n7

Diamond Copper Mining Company, Location: Rockland District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty eighth day of October, 1868, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 40 Merchants' Exchange Building, California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the tenth (10th) day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty eighth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. A. COOLIDGE, Secretary
Office, Room No. 40 Merchants' Exchange Building, California street, San Francisco. oc31

NEVADA CITY, Nov. 3d, 1868.

Messrs. Dewey & Co.—Gentlemen:—Your favor of the 30th ult., is just received, informing me of the successfull prosecution of my application for a patent on my "Hair Cutting Shears." Please accept my sincere thanks for the speedy and successful manner in which you have conducted the case, and believe me, as ever,

Very truly yours, Lee D. Craig.

Colorado Silver and Copper Mining Company, Arizona Territory.

Notice.—The Annual Meeting of Stockholders of the Colorado Silver and Copper Mining Company, of Arizona Territory, will be held at the Company's office, No. 713 Montgomery street, Room No. 40 (3d story), on MONDAY, DECEMBER TWENTY-EIGHTH, 1868, at 3 o'clock, P. M., for the election of Trustees and the transaction of such other business as may properly come before it.

nov14 B. W. MUDGE, Secretary.

Hope Gravel Mining Company. Location of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of November, 1868, an assessment (No 27) of one dollar ($1) per shares was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 28 Merchants' Exchange, California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on Tuesday, the twenty-second day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eleventh day of January, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary.
Office, No. 28 Merchants' Exchange, south side of California street, between Montgomery and Sansome streets, San Francisco, California. no21

Nevada County Gold Mining Company, Nevada County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the fifth day of October, A. D. 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Wm B Peake	425 to 450 inc.	26	$26 00
Wm B Peake	261 to 299 inc.	39	39 00
Wm B Peake	300 to 315 inc. 341 to 350 inc.	25	26 00
Unknown	141 to 245 inc.	107	107 00
Unknown	257 to 260 inc.	4	4 00
Unknown	356 to 408 inc.	53	53 00
Unknown	471 to 500 inc.	30	30 00
Unknown	91, 93, 420, 462	4	4 00

And in accordance with law, and an order of the Board of Trustees, made on the fifth day of October, A. D. 1868, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the Company, No. 9 Merchants' Exchange, San Francisco, Cal., on Saturday, the twenty-sixth day of December, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

W. AUG. KNAPP, Secretary.
Office, No. 9 Merchants' Exchange, California street, San Francisco. no28

Rattlesnake Gold and Silver Mining Company, Brown's Valley, Yuba County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the thirteenth day of October, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Bradley M	old issue	7	50	$00 00
Bradley, A B	old issue	56	5	10 00
Ely, L	old issue	47	10	20 00
Findley, Thos	new issue	26	49	98 00
Gray, C M	old issue	5	30	60 00
Gray, C M	old issue	6	30	60 00
Earle, F	new issue	10	25	50 00
Kitchi, D E	old issue	30	54	108 00
Lawson, J F	old issue	44	49	98 00
Lamory, E	new issue	11	100	200 00
Ruggles, D W	old issue	37	10	20 00
Van Muller, E		20	150	300 00
Van Muller, E		21	100	200 00
Van Muller, E		22	50	100 00
Van Muller, E		23	25	50 00
Van Muller, E		24	20	40 00
Vitte, I		25	5	10 00

And in accordance with law, and an order of the Board of Trustees, made on the thirteenth day of October, 1868, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the salerooms of J. Middleton & Son, 310 Montgomery street, San Francisco, on Monday, the seventh day of December, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN F. LOUSE, Secretary.
Office, 318 California street, San Francisco, Cal. no21

Rippon Gold and Silver Mining Company.—Location of Works: Silver Mountain District, Alpine County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifteenth day of October, 1868, an assessment of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 87 Stevenson street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the nineteenth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the eighth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

P. CARROLL, Secretary.
Office, No. 87 Stevenson street, between First and Second streets, San Francisco. oc24

Postponement.—The day for deeming stock delinquent on the above assessment is hereby postponed until Saturday, the twenty-eighth day of November, 1868, and the sale thereof until Thursday, the seventeenth day of December, 1868. By order of the Board of Trustees.

n21 P. CARROLL, Secretary.

San Francisco and Castle Dome Mining Company. Location of Works: Castle Dome County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fifth day of November, 1868, an assessment of three cents per share was levied upon the capital stock of said Company, payable immediately, at the office of the Treasurer, A. L. Gladding, No. 420 Montgomery street, San Francisco, in United States gold and silver coin.

Any stock upon which said assessment shall remain unpaid on the twenty-eighth day of December, 1868 shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twelfth day of January, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

A. R. SMITH, Secretary.
Office, No. 423 California street, 3d floor, San Francisco no28

U. S. Grant Mining Company.—Location of Works: Carlisle, Nevada County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the ninth day of November, 1868, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 226 Clay street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the fifteenth day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the second day of January, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

ENOS TAYLOR, Secretary.
Office, No. 226 Clay street, San Francisco. nov14

Machinery.

VARNEY'S
PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

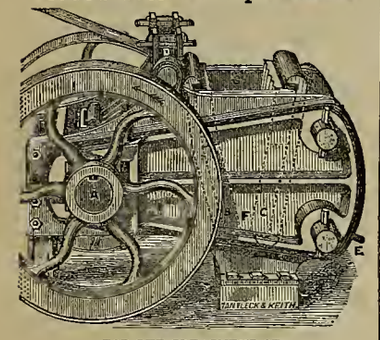
The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setlers for themselves, at the **PACIFIC FOUNDRY,**

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BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:

No. 1—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price.....$600

No. 2—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour.....850

No. 3—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour.....1,200

These Crushers have been erected at several mines in the State of Nevada, and others in Calaveras, Tuolumne and Mariposa counties, to whom applicants can be referred as being the most efficient, cheapest, and least weight compatible with strength and durability, of any Crusher yet erected.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

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Mill Picks, Sledges, Hammers, Picks,

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Fire, Hose and Machine Belting.

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21v16tf JOHN J. FULTON.

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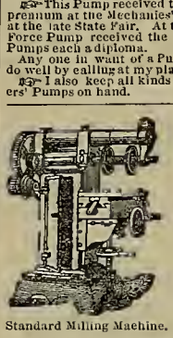
I am now prepared to make all kinds of Pumps for miners and for irrigating in a large way. I am making four sizes of single acting Brass Pumps, similar to the Baden & Sanders Brass Pumps. I am also making a very superior Pump to any in this market for windmills, single acting. I am making four different kinds of double acting Force Pumps, and different sizes of each kind. I am also making Artesian Well Pumps of a superior kind. This Pump may be lowered in any well to any depth desired. It is a force pump, or it is a suction pump, or it is a lift pump, and may be worked by hand or windmill, or any kind of power. Can be used for oil wells better than any other, and the Pump is the most durable and easiest repaired of any Pump in the country.

I have invented and am making a superior double-acting Force Pump, called the GOLDEN GATE, which has great advantages over any Pump in this State. It is the easiest Pump repaired, and is the most durable of any Pump in the pump kingdom.

☞ This Pump received the **Silver Medal** and highest premium at the Mechanics' Fair; also the highest premium at the late State Fair. At the San Jose Fair my Hydraulic Force Pump received the First Premium, and four other Pumps each a diploma.

Any one in want of a Pump or anything in my line, will do well by calling at my place before purchasing elsewhere.

☞ I also keep all kinds of DOUGLASS and other makers' Pumps on hand. 11v17-tf



Standard Milling Machine.



Pipe Vise, with or without Extra Jaw.

UNION VISE COMPANY,

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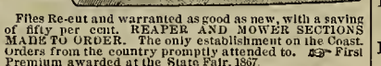
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23v16-1y G. H. NOTT, Pres.

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THE MINING AND SCIENTIFIC PRESS, of this city, has done us the honor to notice us in their columns, and we feel in duty bound to acknowledge the compliment.

It were fruitless for us to say anything in praise of the MINING AND SCIENTIFIC PRESS. * * * It speaks for itself wherever it goes. Its editors are men of intelligence, ability and honor.

We have had frequent occasion to have business relations with the patent agency connected with this establishment, and have had nothing left to desire in regard to it. Fidelity, promptness and courtesy, soon arranged everything for us to our complete satisfaction. Having had frequent delays at Washington while in that city, we have been surprised at the promptitude with which some of our friends obtained their patents through the agency of Messrs. Dewey & Co.—*S. F. Spiritual Light.*

COLORADO MINING.—Prof. Silliman, who recently returned from Colorado, made the following remarks before the Connecticut Academy of Arts and Sciences: "Colorado is a mining country cursed by "processes." Mills are found in abundance filled with all manner of useless machinery, invented and constructed by men who knew nothing of the problem to be solved. In one notable case the Lyon process of lead liquation was adopted, when there was no lead in the region; and as a result, $2,500,000 of the $5,000,000 capital of the Consolidated Gregory have been sunk there, the furnace not being worth the bricks used in its construction. Now, however, the common sense of mining managers is returning, the old and proved methods have been adopted, and the yield is increasing. Nevertheless, the stamps there are badly managed, and the methods of amalgamation are far poorer than in California. Prof. Hill is running copper furnaces which produce a regulus containing 50 per cent. of metal (copper carrying the gold and silver) which is shipped to Swansea to be parted. As soon, however, as enough can be furnished, it will be parted there; though no idea of the richness of the country is given by the fact that there is not at present enough first class ore produced to support more than one furnace. The miners are finding out that it is better for them to sell their ores for cash than to attempt to handle them themselves. They bring them to Prof. Hill, who assays them and pays them cash each on the same day, for the gold only, the copper being a perquisite of the mill. Near Georgetown a mill costing $50,000, with no mine to give it ore. Likewise another mill not far away, which cost half a million of dollars, and in which the inventor proposed to extract gold by steaming the fine ores with sage brush! But the most mortifying feature was to find, after the mill was completed, that their vein was argentiferous galena and contained no gold. More of these lamentable failures may be seen in one day in Colorado than can be found in a year in any other mining region."

RATIONALE OF PERPETUAL MOTION.—Perpetual motion, in the true sense of the term, is the law of the universe. The forces of nature are eternally inter-acting, and no atom of force can be annihilated, but only changes its mode of operation. The heat which proceeds from the sun can never be lost or finally expended; but whether it is wrapped up in the flora and fauna of the earth, or is seized hy man and adapted to his ends as a mechanical agent in the steam engine or the lathe, it remains, under all its varying conditions, the same amount of force, in its primal qualities and quantities unchanged and unchangeable. The recent discovery that the various other forms of force have each its exact equivalents in mechanical units, and that the conversion of force either way is by equivalents, sets this question of perpetual motion at rest, and shows that the law of equality of action and reaction, is to be extended from simple mechanics to all moving agencies in nature. Thus it has become a sure axiom of science that there can be no self-impelled mechanism of human production, and that the idea of perpetual motion is a mischievous chimera, the pursuit of which can only terminate in mortification, failure, and loss of time and money.—*S. F. Times.*

THE NEW OXYGEN LIGHT.—This light is to be introduced into New York. A large laboratory, 200 feet loug and 100 wide, is to be erected for the manufacture of the oxygen, which is to be mixed with the ordinary street gas. It will for the present be conveyed in portable vessels to those buildings where it may be desired; and it is expected that ultimately pipes will be laid especially for it. It is said that actual demonstration has proved it to give a light 19½ times more brilliant than the gas made by the Manhattan Gas Co., at about one-third the cost.

THE ICE TRADE.—The London *Times* says: During the present season Paris has been largely supplied with glacier ice from Switzerland. This is a great innovation and possibly will produce a great revolution in the ice trade. The desert mountain peaks, glittering in the sun on many an Alp, hitherto valuable only in a pictorial point of view, may come to be commercially valuable. When that day arrives, good-bye to the picturesque in one form at least; it will be sledged away to cool the palates of the snug citizens in the continental capitals.

THE NEW POSTAGE STAMPS.—The new stamps are delicate and elegant engravings, slightly smaller than the present ones. The *two-cent* stamp represents a primitive mail carrier on horseback, such as is still necessary among the sparse populations of the West. The *three-cent* stamp shows a mail train, as illustrating the land service. The *twelve-cent* denomination exhibits a steamer at sea, as an exemplification of the ocean mail. The *five-cent* stamps bear a miniature of Washington, being an accurate copy of the face of the "Father of his Country," as shown in Stuart's picture at the White House. The *ten* and *thirty-cent* stamps are real gems; the former represents a *petite* copy of Trumbull's painting of the "Signing of the Declaration of Independence," and the latter exhibits his "Surrender at Yorktown," both taken from the pictures at the National Capitol.—*American Artisan.*

RUTHENIUM.—This is a rare metal, at present of no practical value in the arts. It occurs in platinum ores and in the native osmide of indium; the latter containing from three to six per cent. of it. In appearance ruthenium is of blackish-gray color, and somewhat resembles indium; it is very brittle and is one of the most infusible of the metals; the flame of the oxy-hydrogen blow-pipe does not fuse it, and aqua-regia scarcely attacks it. Its affinity for oxygen is greater than any of the platinum metals, except osmium. When heated to redness in the air, it oxidizes and forms a bluish-black oxide, which does not part with its oxygen at a white heat.

FUEL-LOADING SHUTE.—At one end of the shute for supplying the engines on the Lebanon Valley (Pa.) Railroad with fuel, is a house containing a stationary engine which works a set of pumps. These force water out of a cisteru into a cylinder head containing a piston of some twenty feet in length and six inches in diameter. The piston works perpendicularly, and on the end of it rests a platform on which one eight-wheel, or two four-wheel coal cars are placed from the siding. The pumps are put in motion, and in two minutes the loaded cars, weighing about twenty-one tons, are raised aloft twenty feet, where the cars are pushed forward over the shute and dumped.—*Reading Eagle.*

THE HOOSAC TUNNEL.—Work upon this tunnel has been suspended. The *American Railway Times*, of Oct. 3d, says: "This order is issued probably in consequence of the failure to secure bids of a satisfactory character for the entire construction of the tunnel according to legislation of the current year. There were several bids, but as the firm of contractors making the lowest bid did not or could not make the deposit required, as a satisfactory guarantee, the Governor and Council refused to conclude the contract."

DOUBLE PROPELLERS.—The latest marine contrivance is the propeller about being introduced by the French Transatlantic Company; instead of a single screw resting on the keel of the ship there are two screws placed on each side of the stem with the rudder between. It is claimed that the new arrangement will increase speed, work more easily, produce less strain and wear on the vessel, and give a new impulse to the movement by which propellers are slowly crowding side wheels from the ocean.

TELESCOPE CANE.—A physician in Concord, N. H., has a wonderful cane. It is so arranged as to combine a walking stick, a thirty-inch telescope, and a nice opera glass, and all perfectly free from dust. It is easily and readily adjusted for either purpose, and was patented on the 28th of last July.

FELT ARMOR.—An Italian named Muratori, has invented a kind of felt, made of vegetable substances, which is tough enough to turn a rifle ball. He proposes to dress soldiers in it for battle, and Napoleon III thinks of employing it instead of iron, for the armor of ships.

HANDY ANDY.—C. M. Leland, of Colorado, has filed a caveat to patent an instrument consisting of a combination of tools, which he calls "Handy Andy." It consists of a screw-driver, hatchet, hammer, wrench, claw, for drawing nails, and pinchers, all in one instrument.

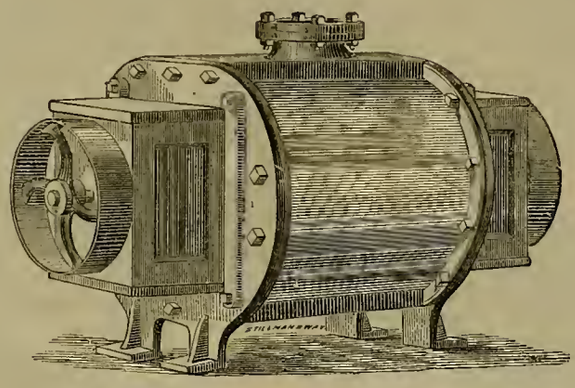
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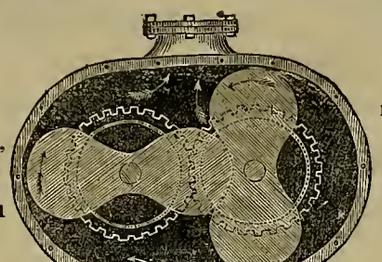
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We commend Mr. Kustel's treatise to the attention of all concerned in the business of mining and reducing ores, to whom it must prove a valuable hand-book of practical knowledge.—*Daily Reese River Reveille, Jan.*, 1868.

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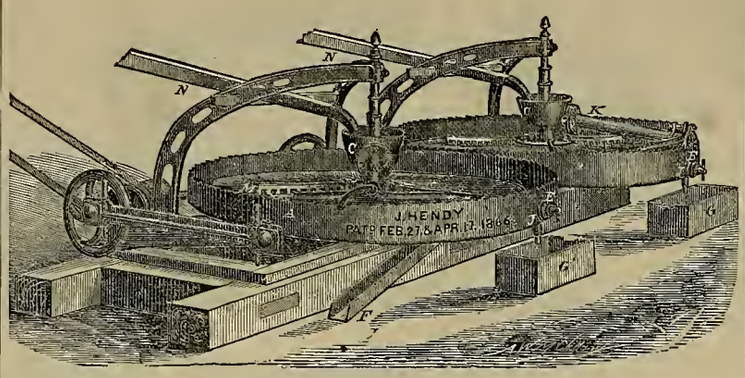
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SAN FRANCISCO, SATURDAY, DECEMBER 12, 1868.

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Geological Philosophy.

The following poem, by W. A. Kendall (of this State), is a gem that will certainly please and instruct every reader of the PRESS. It is the far-reaching philosophy attaching to geology that makes its pursuit so interesting, and its deductions so profoundly suggestive. Kendall heads it

TERRAQUEOUS.

[From "Ansted's Great Stone Book."]

FIRST PERION.

Bare rocks and vacuous water—
Liquid and solid wastes alternate span
Primeval Earth about—
No Plant, no Beast, no Man.

SECONN PERION.

Cycles of unrecorded time—
Slow transmutations, vast upheavals, shocks:
Dawning of vegetable life—
Lichens upon the rocks.

THIRD PERION.

Centuries of rain and sunshine—
Fins flash the ocean depths, the land
Teems with crude animation—
Brutes wallow on the sand.

FOURTH PERION.

More sluggish centuries lapse—
Forests surmount the hills—umbrageous gloom:
Incense exhales and melodies are piped—
Birds twitter—flowers bloom.

FIFTH PERION.

The age of final preparation wanes—
Declared the consummation of the Plan:
The House is ready—lo, its master comes—
The "Jack of all Trades"- Man!

* * * * * *

A link discovered wanting—
A section to complete the circlet human;
The Man is *less* a rib, and straightway finds
Himself—*plus* Woman!

SIXTH PERION.

Generations of masters come and go—
The house absorbs its tenants—all is mystery:
Reason toddles a-pace, babbles, and founds
Traditional History.

SEVENTH PERION.

Inventions and contentions—
Wars, famines, feasts, and plagues;
Prophets and puppets; crucifixions, trinkets—
Reformers on bow-legs.

Not yet the end—perhaps not yet the middle—
Uncertainty its fullness still retains;
Yet, for their derivation—*stone* and *water*—
How wonderful are brains!

THE LARGEST LOCOMOTIVE.—A correspondent of the *American Artisan* says: "The 'Reuben Wells'—a locomotive built at Jeffersonville, Ind., for the J. M. and I. R. R., to be used on the 'plane' at this city (Madison)—has ten driving-wheels and weighs *sixty-five* tons. This is the largest locomotive in the United States, and runs on the steepest grade in the world, I believe, the rise being 400 feet to the mile."

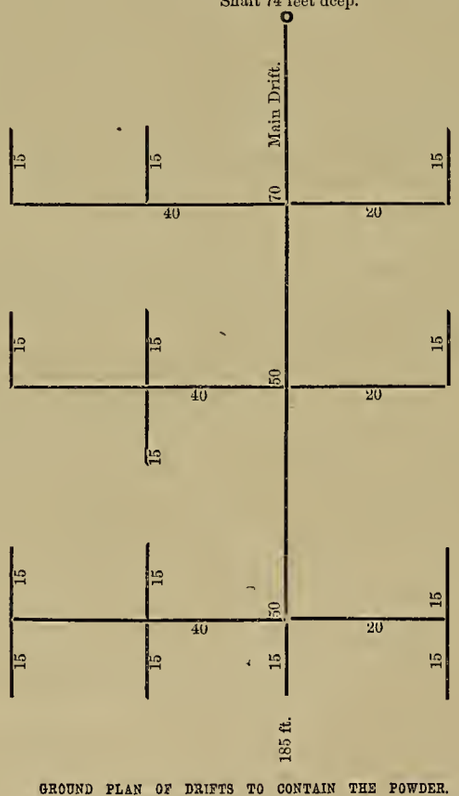
A Great Blast in the Gravel Mines.

It cannot be gainsaid that the Pacific Coast has contributed to the world, besides its pyramids of gold and silver, also a material addition, in several not unimportant particulars, to its previous acquirements in the arts of mining and civil engineering, and in metallurgy. Gold and silver, we are almost ready to maintain, are the veritable component metals of that lever with which Archimides proposed to move the world,—we are not sure that even any place is needed to stand upon. To build the Pacific Railroad over the lofty and snowy Sierra Nevada, was no great matter at all to the stake-hold, practical engineering mind of Californians; yet it is the most meritorious work of the kind, if we have not been over-praised, that the world has seen.

Hydraulic mining engineering is, to Eastern and European miners, engineers and geologists, an unrealized fact; or if presented to them in tangible hights, distances and quantities, a myth,—so far removed from them and their surroundings, that it matters not to them whether it be true or false. That the gravel miners of California are digging away miles of hill and mountain to a depth of 200 feet or more, and depositing them in Sacramento Valley, from ten to thirty miles distant, can be best believed when seen. But it is nothing for self-glorification. Gold is there, and the mountains must come down,—if it takes a hundred years to sweep them away to the clean bedrock. The elements do it, and man controls the elements, as it is his privilege to do.

An idea can be formed of the dimensions of some of the large blasts which are set off to loosen up the hills for the operation of the hydraulic stream, from the following communication:

EDITORS MINING AND SCIENTIFIC PRESS: Learning from paragraphs in the papers of the day that a great blast was to be exploded in the mines at Smartsville about the 15th of the month, I took a stroll to the place, to examine the preparations.



GROUND PLAN OF DRIFTS TO CONTAIN THE POWDER.

I found that it was proposed to burn 1,200 kegs, or fifteen tons, of powder in one blast.

To understand the nature of the ground to be blasted, place yourself on the side of a mountain rising on an angle of about twenty-five degrees. There is no opening to start from; and to get to the level of the flume through which the earth is to be washed after the explosion, a shaft is sunk at the head of the flume seventy-four feet in depth, and inclines are run out north and south from the bottom of shaft, for the purpose of washing the gravel into and through the flume.

From the bottom of this shaft a drift three by four feet is run into or under the mountain a distance of 185 feet, the surface of the mountain being at this point 105 feet above the drift. Then, seventy feet from the shaft, there is a cross drift of forty feet in length from the main drift south; then, at a distance of twenty feet from the main drift, on this side of the drift, a second side drift is run back fifteen feet towards the mouth of the tunnel; then, at the end of the forty feet, another drift is run fifteen feet towards the mouth of tunnel, and directly opposite this side drift of forty feet south there is another side drift south twenty feet, at the end of which a drift is run fifteen feet towards the mouth of the drift on this side—forming an L, and on the other side a double L. Then, fifty feet further under the mountain, the main drift is cross-drifted as before. Then, fifty feet further in, the main drift is crossed again as before, only the cross drift of forty feet is crossed each way, forming a double T; the opposite side the same. In these cross-drifts the kegs of powder will be stored, with only the heads broken in. The wires from the battery will pass through one or more kegs of powder in each cross drift, thus igniting the whole mass at the same instant. The main drift will be tamped from bottom of shaft to the first cross drift, a distance of seventy feet. In the remainder of the drifts, nothing but the powder is placed, leaving a large vacuum, where the force of the powder is collected before it begins its work.

This is the largest blast that has ever been attempted in the mines of this State. I will try and be present when it is discharged, and will send you an account of the result. Yours, A.

Smartsville, Dec. 8th, 1868.

QUARTZ MILL STOLEN.—The Humboldt *Register*, of Nov. 28th, gives an account, and discourses as follows, concerning the stealing of a quartz mill from Vicksburg District, Nevada, near the Oregon line:

The mill was built by a party of adventurous miners, who failed, and the property was sold for delinquent taxes. An enterprising Humboldter bought it, and considering it perfectly safe where it was, albeit it was in the Indian country, left it alone in its glory, until such time as he could find employment for it. While resting in fancied security, some equally enterprising farmers from Surprise Valley, in California, went to Vicksburgh District and "snaked" the mill over to Surprise, and put it to crushing grain. People who have gold filing in their teeth, or hot stoves, or post-holes for fencing out that way, will do well to keep a sharp lookout. There would be no use in a blind hog of the female persuasion hoarding up acorns for winter in that section of the country. The fellow who stole the blankets and east-off clothing of the Santa Cruz Small-pox Hospital, recently, will find a colony of his countrymen in Surprise Valley.

GERMAN WHALING GUN.—Mr. Rechten, of Bremen, has been exhibiting the newly patented German whaling gun at New Bedford. The gun is double and very heavy, mounted on trunnions. One barrel is designed for a harpoon and the other for a bomb lance. The harpoon is said to have been thrown a long distance with great accuracy.

What May Happen in Africa.

Simultaneously with the announcement that Livingstone is approaching the Zanzibar Coast, we have another, that immense and very rich gold fields have been discovered in South Africa. Grand expectations are predicted on the explorations of the great traveller, which have just been brought to a close, and from the development of the auriferous region about to commence. A mining fever has broke out, as it did in California and in Australia, and already a swelling tide of emigration has set toward the inviting placers. So far the movement has been attended by all the manifestations which so peculiarly distinguished the migrations to the Pacific slope and to the ocean isle. Transportation from Cape Town to the diggings, by every means of conveyance, is eagerly sought, and is procurable only at the most exorbitant charges. This has led to the formation of a company to furnish a regular intercommunication for passengers at reasonable rates. Thus does the frontier of civilization in Africa, which heretofore has clung to the coasts, threaten to extend more than a thousand miles into the interior from the southern extremity, and three or four hundred miles west of the eastern shore.

A vast foreign population suddenly transferred to the central wilds of the great continent which has been almost a sealed book for so many ages, with all the accessories, pursuits, habits and ambitions of civilized life, cannot but leave a permanent impress upon the country, and to lead to the most wonderful realizations. Thousands and thousands of European and American inhabitants cannot be brought together without causing utilitarian development on a cyclopean scale. A village of bush arbors adjaceut to a gold gulch would not long remain without undergoing the changes of a transformation scene, ending in an array of pretentious buildings, and a community subjected to some sort of municipal government. Let mining prove a remunerative operation, and the growth would be steady and rapid. Newspapers would become indispensable, and the demand would soon be abundantly supplied. Just imagine the fact of regular journalistic advices from the interior of Africa!

As the country filled up with gold hunters and other adventurers, and as the auriferous product found its way into the world's markets, lines of steamers from several important ports would connect with the coast of Africa. Any considerable continuance of such a state of things could not fail to plant the germs of enduring government amid the wilds of the mining region. Being the outgrowth of fortuitous circumstances, and surrounded by all the elements of democratic equality, the natural tendency would be to the formation of a republican organism. Monarchical institutions could scarcely arise out of a community of interests so suddenly created, causing so speedy a necessity for a scheme of polity.

It is almost needless to promise that adventurous explorations would soon begin to diverge in many directions from the center of population, resulting in a multitude of valuable and curious discoveries, leading to a topographical description of distant regions, and adding much information to our scant knowledge of interior Africa.

Who can tell what revealments might not be made, or what new influences might not be set at work upon the world's progress? The central wilds of that vast continent are as little known to civilized man as was the Mississippi Valley when our forefathers were fighting for civil and political liberty. Since then every acre of the valley's soil has become a familiar spot, and it promises, at no far distant day, to be the seat of commercial empire, and the center of population in North America. The obscurity and solitude which now envelop the interior of Africa, are not, therefore, to be estimated as very serious obstacles in its speedy development, should not other conditions intervene.

The gold discoveries of California were the efficient instruments of building up that territory to the stature of a full grown State within two years. Pour a steady stream of immigration into the mining regions of interior Africa, and similar manifestations might reasonably be expected. Such a contingency affords groundwork for many curious speculations about the resulting influences upon migration, upon commerce, upon gold value, and upon the future status of Africa itself.—*Chicago Republican.*

White Gunpowder is made of the following ingredients, which are pulverized separately and then mixed with a spatula or by sifting many times: Chlorate of potash, 48 parts, yellow prussiate of potash (dry) 28 parts, sugar (dry) 23 parts.

The Dearth of Invention.—When the grandfather of our queen ascended the throne in 1760, there were no steam engines as we now understand the term. Even Adam Smith, who wrote so profoundly and so prophetically upon the wealth of nations, did not live to see a puddling furnace or a rolling mill, nor did Dr. Darwin survive to see a power loom, nor did Pitt or Fox, although both died less than a full lifetime ago, ever hold a steam-printed sheet in their hands. It is not yet fifty years since the death of Watt, yet he saw but the dawn of steam navigation, and Sir Humphrey Davy passed away before there were such things as railways, the self-acting spinning mule, or the hot blast. To Telford's latest days there was neither ocean steam navigation, electric telegraphs, nor photography; and it is too recently for any reference to living memory, that we have had the india-rubber manufacture, the discovery of anæsthetics, screw propulsion, wrought iron bridges, iron ship-building, the coal oil manufacture, submarine telegraphs, the Bessemer process, steam cultivation, and a host of inventions and discoveries of less, yet remarkable importance. But the stimulus of invention is just now wanting; there is a languor of practical inquiry, and we appear, indeed, to have but few subjects for practical discussion. Whoever would set going ideas of practical promise now would render a great service to us all. We have well nigh worked out the questions which so occupied the profession but a few years ago. There is little said now about high pressure steam, high piston speed, surface condensation, superheating; about sizes, forms, or proportions of ships, about locomotives or railway construction, about ordnance and armor, steam plowing or gas making, about bridges, foundations, waterworks and pumping machinery, and a dozen other topics upon which, so lately, there was so much difference of opinion. There are subjects left for discussion, but we hear little of them. Of these are steam-worked tramways, the disposal of sewage, the use of liquid fuel, hydraulic propulsion, artificial stone, etc., to say nothing of aërial locomotion. More power to the elbow of every one who has undertaken to advance these ideas; more *nous* to those who will undertake to give us new ones. We are all stagnating as we are, and only a new invention, or a new idea of practical applicability, will give us fresh life.

Which shall be the Greatest.—Besides minerals, there are three or four productive interests in this State, for each of which some one, in imitation of a well-known phrase, makes a claim to be "king." Wheat, in fact, is the only interest that could make such a boast with any show of truth. The others, as yet, are only aspirants for the honor. The people of Napa, Sonoma and Los Angeles, claim that the grape shall be king. Prevost, of San José, Messrs. Haynie & Hoag, of Sacramento, and Muller, of Nevada, claim that silk will take precedence of every other interest. If Flint, Bixby & Co. were asked, they would point to the green-hill pastures and to a flock of well-bred sheep, only exceeded in numbers by two others in the world, and argue that wool would some day be king. The fact is there will be no king. Wheat, wine, silk, wool, gold, silver, and even other mineral and vegetable productions, will divide the honor among them. Some one interest will possibly take precedence over any other single interest, and assume a more important position in our export returns, but which it shall be who can tell? And what it may be is not important. No interest is ever likely to spring up in this State that will override any other two or three interests; certainly none can ever rise that will override in importance and exceed in amount the sum of all other exports when added together in one grand total. Neither wheat, wine, wool, silk, or precious metals will ever be king. There will be a commonwealth of commerce and home production, in which, though the individual elements may differ in consideration, none will assume to rule all others. The export trade will never be governed by a product that will style itself king, but will be ruled by the many after the manner of our own Republic.—*Bulletin.*

British Minerals Raised in 1867.—We extract the following figures from the "Mineral Statistics of the United Kingdom for 1867"—by Robert Hunt, F.R.S.:

	Tons.	Value.
Coal	104,500,480	£26,125,145
Iron Ore	10,021,058	3,210,098
Tin Ore	13,649	694,734
Copper Ore	153,544	699,693
Lead Ore	93,432	1,153,066
Zinc Ore	13,489	41,340

Patent Office People.

The father-in-law of your Senator, Henderson, Mr. Elisha Foot, seems to be handling the Patent Office with ability. It is the current belief in Washington that this department of the Government is not without corruption, but the agents and lawyers whose offices lie in the environs, and who are at the mercy of its examiners, are chary to speak, much of their bread and butter being bound up in the good will of the directory. A partial awarding of patents, in the interest of money instead of merit, involves unjust millions of dollars, besides discouraging inventors and making them doubt the righteousness of the Government. With a corrupt Patent Office, infinite law suits arise, and yet it is probable that money is freely used within the precincts of that building, the claims of inventors who are willing to pay being considered in many gross cases beyond those of the needy. So is their preference among the patent agents—those who solicit patents—some being understood to have the ears of the office at their disposal, others failing to secure patents which are afterwards willingly granted to cotemporaries.

Mrs. Foot, the wife of the Commissioner, is an inventor, whose patents have been profitable. She has invented a skate without straps, and several other things.

Thaddeus Hyatt, once incarcerated in the District jail for a complicity which he affected to have with John Brown's raid, is now a successful inventor, his patent for glass light in pavements netting him a very large income.

About 50,000 patents have been issued in the United States in thirty years, the receipts for which in fees have been nearly two millions and a half of dollars, while the British Government has granted only about 40,000 patents in 250 years. This shows the extraordinary activity of the American mind in mechanics, and the Patent Office building, which has cost the Government no money, is the best monument to American shrewdness and suggestiveness in the world. Amongst nearly a hundred thousand models stored in the galleries of that splendid institution, one may wonder in hopeless bewilderment, feeling that every model, however small, is the work of some patient year, lifetime. and often of many lifetimes—so that the entire contribution, if achieved by one mind, would have extended far into a human conception of an eternity of labor.

The best patent lawyers in the United States are Judge Curtis and Mr. Whiting, of Boston, Messrs. Gafford and Meller, of New York, George Harding, of Philadelphia, and Mr. Latrobe, of Baltimore. The practice of these will average $30,000 a year.

The Patent Office building is generally adjudged to be the most imposing of all the national edifices at the Capital. To my mind the Postoffice is a better adaptation. The former was the work of the present architect of the Capital, Edward Clark, and its three porticoes cost $75,000 apiece. The four grand galleries, or model rooms, are unlike and magnificent. It is related here that inventors who spend many years among these models commonly go crazy. Some day, at leisure, I will relate to you some striking contemporary incidents of minds out of gear. Within the Patent Office building are also maintained the Bureaus of Public Lands, Pensions, Indian Affairs and the Census. The Agricultural department has now its separate building on the hights near the Smithsonian.—*Washington Cor. Missouri Democrat.*

More Evidence Touching Pliocene Man in California.—The Amador *Ledger* of Nov. 28th contains the following, which is cumulative evidence of the genuineness of the Pliocene skull of Calaveras County, known to fame as the fossil Joe. Bowers:

Two or three years ago, John Dane, while running an open cut for mining purposes, through Grass Valley Ranch, in Amador County, unearthed the skeleton of a mastodon of huge proportions, but most of the bones crumbled to dust after a short exposure to the atmosphere. The remains were found lying in a strata of auriferous gravel, with about fourteen feet of alluvial soil over them; but the most remarkable feature in this discovery, was that of several stone mortars and pestles, unmistakably the work of human hands, found in the same strata, and in close proximity to the remains of the mastodon, evidently proving that a race of human beings inhabited the mountains of California, coëxistent with the mastodon. Mr. Dane has several of these stone mortars and pestles, together with some of the grinders of the huge animal, now in his possession.

Gold Quartz-Crushing in Mexico.—It has been lately ascertained that few countries contain greater and more extensive gold fields and veins than the southern portion of this Republic. Several Americans from California have been inspecting the States of Michoacan and Guerrero, and the great advantages to be found there are superior to California or Australia. Rivers crossing those States in all directions (by which water-power can be replaced for that of steam) are found in numbers; impenetrable forests on the hills, and agricultural produce of every class, and close at hand. As a general rule, 300 pounds of barley or Indian corn are sold for 8s. at the mineral districts. A common laborer is paid 1s. 6d. a day, and a skilled miner of the country 2s. and 2s. 6d. The same can be applied to another neighboring country—Nicaragua. And although the first English company for that country did not take full advantage of these circumstances, having sent persons to take charge of their property not sufficiently experienced in gold quartz-crushing, not having been sufficiently cautious as to taking average samples, gave these as having 20 ozs. to 25 ozs. of gold per ton, instead of 1 oz. to 1¾ oz., which is a good paying average on large quantities. This is shown by the monthly returns from the Port Phillip and Clunes of Australia, as also the Anglo-Brazilian companies, that pay, on an average, very high percentages, on ore that seldom yields above ½oz. of gold per ton. I imagine that, if these companies pay handsome dividends on ½ oz. per ton, with steam-power and high wages, Mexican gold mining companies, with much greater advantages, and an average of 2 ozs. per ton, cannot but promise a great future for such undertakings.—*London Mining Journal.*

Geology of Vancouver Island.—In the December number of the *London and Edinburgh Philosophical Magazine*, we find the following abstract of a communication from Hilary Bauerman, to the Geological Society of London:

"The author described, first, the metamorphic rocks which are everywhere seen in the neighborhood of Esquimalt and Victoria, principally dark green saudstones and shales, passing insensibly into serpentine, chlorite-schist, mica-slate, and gneiss. At some places unfossiliferous crystalline limestones are associated with them. Dykes of greenstone, syenite, porphyries and trap rocks frequently penetrate the methamorphic rocks. To the westward of Esquimalt black cherty limestones and red porphyry occur. To the north at Nanaimo, rocks with Cretaceous fossils appear, also at Cornoux Island, twenty-one miles northwest of Nanaimo. The fossils occur in nodules, and consist of fish scales, Nautilus, Ammonites, Baculites, Inoceramus, Astaste (?) and Terebratula. Lignitiferous deposits (sandstones, grits, conglomerates and micaceous flagstones) succeed the Cretaceous rocks, and are extensively developed over a great extent of country, forming the mass of the islands in the Gulf of Georgia as far south as Saturna Island. Northward, they occur at Fort Rupert. Two seams of coal, averaging six to eight feet each in thickness, occur in these beds, and are extensively worked for the supply of the steamers navigating between Victoria and the Frazer river. The coal is a soft black lignite, interspersed with small lenticular bands of crystalline coal. Retinite is common in more earthy portions. Shales, with plant-remains, are interstratified with the lignite. At Bellingham Bay on the mainland similar coal-bearing sandstones have been observed by the American geologists.

A pleistocene boulder clay is widely distributed over the southern part of Vancouver's Island, and the opposite coasts of the mainland and grooved along the shore; and so also is the rock surface beneath the drift, which at Esquimalt Harbor is about 20 feet thick, while it is much more at the Barracks, and more than 100 feet thick between Albert Head and Esquimalt.

The Mineral Wealth of Russia.—Large and most important discoveries of coal have been made in Russia. The mines of one district alone are, according to the St. Petersburg journal *Golos*, capable of supplying annually 400,000 tons for 150 to 200 years. Since 1864 there have been surveyed in the valley of the Don forty-four beds, the aggregate quantity of which is estimated at 1,234,946,375,000 pounds, or more than 18,000,000,000 tons. The *Golos* asserts that the mineral wealth of Russia far exceeds that of England, and at the same rate of production would last for two centuries after the English mines were exhausted.

Mechanical.

Boiler Explosions.—Mr. Heaffman, of Breslau, publishes a description of some experiments recently made in accordance with the request of the Association of German Engineers. He used a small glass boiler, and found that when the escape pipes were only gradually opened, and the steam allowed gradually to escape, the generation of steam quietly continues, and the water remains pretty tranquil. But if, on the contrary, the valve is quickly opened, steam bubbles suddenly form all through the water, and rising to the surface place the water in violent commotion. In one of these experiments he watched the manometer, while another man quickly opened the valve to allow the steam to escape. As soon as the valve was opened the pressure fell three pounds, but immediately again began to rise, whereupon the boiler exploded. Where it had been in contact with the water it was shattered to powder, which lay around like fine sand. Of the entire boiler only a few small pieces, of the size of a thaler, were left. Afterwards he constructed a similar glass boiler, with a cylinder seven inches diameter nine inches long, and to the ends metal bottoms were placed by means of vulcanization; in the ends were pipes for letting in the steam. By means of a force-pump the boiler was filled with boiling hot water, the valve being left open meanwhile, in order that its sides might become evenly heated. Then half the water was drawn off again, and air let in, and then more boiling water forced in, so that the air was compressed until the boiler exploded, at a pressure of fifteen atmospheres. The report was not nearly so loud as at the former explosion, which took place at a pressure of only three atmospheres, and the glass only broken into several pieces. This clearly proves that the action of the water on the boiler is the same as would be produced by exploding nitroglycerine in the water. The effect is like an electric shock, and he is of the opinion that escape of electricity taking place during the issue of the steam is in play. If steam be led into cold water, shocks ensue that are capable of bursting pipes.

Bessemer Steel and Machine-puddled Iron.—The following is from an article in the *London Mining Journal*: "Although there seemed to be every prospect that machine-puddled iron would take as prominent a position in the market as Bessemer steel—yet the matter appears to have fallen into abeyance, whilst the manufacture of cheap steel is not only attracting more attention than formerly, but is actually causing the application of steel to many purposes for which, compared with good and cheap wrought iron, it is ill adapted. Chemists have endeavored to prove that the sole difference between pig iron, wrought iron, and steel, is in the varying quantity of carbon; but all who have been practically engaged in the handling of these metals, know that the difference depends more upon mechanical structure than upon chemical composition, and that, although experimental tests may appear to show that given samples of wrought iron and cast steel are of equal strength, it is found by experience that the two metals cannot in all cases be substituted for each other. For rails it can be understood that steel is as good or even better than iron, because a rail has to bear pressure and friction itself remaining in one position, and it would also have the advantage of resisting exposure to atmospheric changes better than iron, owing to its surface being more compact; but where a weight has to be supported by, and not upon, the metal, iron is to be preferred, because its structure is better able to bear the effect of tearing force. For this reason steel should never be employed in the construction of bridges, chains, or any like articles."

Lead Caulking for Boiler Man-holes. Mr. Heaffman describes the manner of making this, and recommends it: "A groove is cast into the lid of the man-way, ½ to ⅝ in. deep and wide, this filled with lead, which is well hammered down, and the surface thus formed is pressed to the rim of the man-way, whose edge must only be one line in width, and may be rather sharp. From the edge the surface of the rim falls away at an angle of 45°, thus forming an obtuse edge, which cuts into the lead. This easily-made caulking always fits closely and securely, if the lid is always placed as it lay at first."

Boring Machines at Mont Cenis.—The following description is from the London *Mining Journal*. Each machine is formed of a pair of bars, about six feet six inches long, these bars having placed between them the 3-inch cylinder by the piston of which the boring tool is actuated. The cylinder is not fixed to the frame bars, but is capable of sliding on them, motion being given to it by a large worm at its hind end, which gears into racks formed on the inner sides of the frame-bars. The cylinder is three inches in diameter, and its piston has a rod about two inches in diameter, there being thus but a comparatively small annular area on the front of the piston, on which the air continually presses. At the hind end of the frame-bars of the machine is placed a kind of miniature horizontal engine, worked by the compressed air—this engine driving, through a bevel gear, a square shaft, which extends nearly the whole length of the machine above the boring cylinder. This shaft carries a cam, which gives the necessary motion to the slide-valve, which governs the admission of the air to, and its release from, the boring cylinder; and from the same shaft the intermittent rotary motion is given to the tool, and also the necessary advance as the hole is bored.

Sanderson's Improvement in Steel and Iron Making.—Charles Sanderson, of Worksop, Eng., has obtained a patent for a process which is thus described by the London *Mining Journal*: "In this invention, the pig iron is melted on the bed of a furnace at a high heat, with the damper so regulated as to get the whole of the metal into a fluid state as soon as possible. Sulphate of iron is then charged in, and the iron rabbled, at the same time the puddler must draw the damper wide, and cause a current of air to pass through the furnace. The fire must also be pushed on, in order to greatly increase the heat. Whilst the metal boils violently the gas will liberate itself, and with it the phosphorus, sulphur, and other volatilizable and oxidizable impurities. By these impurities becoming oxidized, they will be brought into a gaseous state, and will by the strong draught be at once carried out of the furnace through the flue and up the chimney-stack, and in this way these gaseous impurities are got completely rid of out of the furnace, and cannot return."

Pennsylvania Iron Works.—We clip the following from the *Iron Age*, of Nov. 12th: On Monday, of last week, the largest amount of iron manufactured in any single bar mill in Pittsburgh or vicinity, in a single day's work, was made at the establishment of Messrs. Graff, Byers & Co., in East Birmingham. A wager was made by the foreman (Mr. Kramer), and the hands employed, that fifteen tons of four and three-quarter "hoop" iron could not be "turned out" in a single day's work, consisting of eight hours. At the expiration of the eighth hour it was found that 16¼ tons, or 36,400 pounds, were made (2,240 pounds constituting a ton.) Previous to this date the largest amount of work performed in any single mill was eleven tons, or 24,640 pounds. The famous "Iron Letter" which excited so much curiosity in England a few years ago, was manufactured at this establishment.

Heliographic Steel Engraving.—The *Artisan* describes some new and beautiful specimens of this art, which were executed by a New York Company. In this process the picture, a portrait, view, or subject of any kind, is obtained upon the steel plate by photography, the plate being so chemically prepared that when placed in the camera the picture is produced upon it by the action of light, in a manner somewhat the same as that in which daguerreotypes or ordinary photographic negatives are obtained, only the chemicals are made to act upon the steel itself and not merely upon a film or coating applied to it. The plate thus prepared is printed from in the same manner as an ordinary engraved steel plate. Engravings obtained in this way are of course absolutely accurate. The process is not only applicable to the production of pictures, but of plans, stock certificates, checks, etc., and all such subjects as are produced by ordinary engraving or lithography, while it is very economical.

The Largest Safe in the World.—The Philadelphia Safe Deposit Company has just set up the largest safe in the world. It is twenty-seven feet long, twenty-one feet broad, eight feet high, lined with the new "metal mirror" iron, which is five times harder than tempered steel, cutting glass like a diamond.—*Artisan, Nov.* 11.

Scientific Miscellany.

Super-Saturated Solutions.—C. Tomlinson, Esq., F. R. S., has shown that a highly super-saturated saline solution, which would separate at ordinary temperatures, may be cooled down to 10° Fah., or even lower, without such separation, if in a chemically clean vessel. The slightest particles of dust, however, will furnish a nucleus around which crystallization at once takes place, and the solution immediately becomes solid. Löwel was not successful in obtaining the same results,—not being able to reduce the temperature lower than 60°, without change. This was probably due to the fact that in his experiments he used *corks* as stoppers to his flasks. Under the operation of cooling, the partial vacuum created above the solution, would cause air to find its way in, bringing with it perhaps an infinitesimal particle of dust, which would serve as a nucleus. Mr. Tomlinson, on the other hand, used plugs of cotton wool as stoppers. This prevented the rarefaction of the air within, and also kept out the motes. A slight greasiness upon the finger, if conveyed to the upper part of the inside of the flask, also furnishes the chemically unclean condition under which crystallization takes place; this commencing the instant the flask is sufficiently inclined to allow the solution to touch the point to which the finger had been applied.

Aurine Cake.—Dr. Adriani details in the *Chemical News* some experiments with rosolic acid, or "aurine cake." This is a product of the oxidation of carbolic acid in the presence of alkalies. At the temperature of 60° Fah. it cakes together, and melts at 212°. Dr. A. did not succeed in preparing from this substance pigments for artists' use as oil paints,—which was the object with which his experiments were instituted. Although he obtained precipitates which, in the dry state, were of exceedingly brilliant and beautiful colors, all changed, when mixed with oil,—however clear,—to "indifferent shades of dark stone-red, somewhat similar to oxide-of-iron paint."

Dr. A. thinks, however, that it may be used as a red ink of great beauty, if dissolved in weak alkaline carbonates. Of these the best is the carbonate of soda. This ink does not corrode steel pens, but actually protects them from rust; mechanical draughtsmen can therefore safely use it with their steel drawing instruments. Moreover, any tampering with what is written with it, by acids, for instance, will be at once detected by its change to yellow; and the original color cannot be restored.

Fossil Imprints in the New Red Sandstone.—Mr. Daniel Jones, in writing to the *Wolverhampton Chronicle*, says: "It is so seldom that evidence of organic life during the period in which the new red sandstone was deposited is to be met with, that any such discovery deserves to be recorded; and for the information of geologists I am desirous of calling attention to four imprints of feet upon a large slab of sandstone now lying at the quarry, near Somerford. I was attracted by the very distinct ripple marks which may be seen on several slabs in the quarry, when I discovered the footprints upon the largest slab. I believe they will be recognized as similar to those observed at Hildburghausen, Saxony, of an unknown Batrachian, provisionally named Christherium.

Determination of Sulphur in Organic Compounds.—R. Otto heats the compounds with chromate of copper in a short combustion tube. It must be done slowly, and the front part of the tube heated just enough to prevent condensation of moisture. After cooling, the contents of the tube are "dissolved in chlorhydric acid, digested with alcohol, and after complete reduction, filtered and precipitated with baric chloride."

Chlorophyl.—We find the following in the Foreign Science summary of the *Chemical News:* In a note, entitled "Researches on Chlorophyl," by M. Filhol, presented to the Academy of Sciences, he states that all the methods of preparing chlorophyl requiring the aid of acids decompose this substance; and furnish, not chlorophyl, but the products which result from its decomposition. The organic acids, the action of which is less powerful, destroy the green color of solutions of chlorophyl; this substance splitting up into two substances, one of which separates in the solid state in the form of black flakes, while the other remains in solution, and is of a fine yellow color. The yellow matter, treated with concentrated hydrochloric acid, is separated into a solid substance which can be isolated by filtration, and which is yellow, and a blue substance which remains dissolved. The latter becomes yellow when the acid which has produced it is saturated. The yellow solid matter which separates when the hydrochloric determines the production of the blue color, contracts the property of becoming blue under the influence of acids, when boiled for a few minutes with potash, soda, or baryta, in contact with the air. The green parts of plants always contain, as well as chlorophyl, the two yellow substances spoken of.

Artificial Production of Iron Sulphides.—M. Sidot passed a current of dry sulphureted hygrogen over artificially prepared magnetic oxide of iron heated to bright redness. At first, aqueous vapor and sulphurous acid are disengaged; and at the end of about two hours, the whole of the oxide is transformed into sulphide in a state of perfect fusion. Upon raising the temperature, the evolution of sulphur vapors indicates the decomposition of this sulphide. After cooling, the porcelain tube which has been used for the operation is broken, and the cold part of it is found lined with fine crystals of modified hexagonal sulphide of iron, isomorphous with the protosulphides, and presenting their characters. It is not magnetic. The residue in the tube not sublimed is magnetic sulphide of iron. It is not only maguetic, but possessed of magnetic polarity.

Disinfecting Agents.—Dr. Berenger-Feraud, of the French navy, after trying wood charcoal, chlorine, chloride of lime, carbolic acid, and protosulphate of iron in deodorizing the bilge water of ships, comes to the conclusion that permanganate of potassa far exceeds them all in rapidity of action and thoroughness of effect, and says: "I made use of a solution of permanganate of potash, of the strength of half an ounce of crystals to a quart of water. One ounce and a half of this solution, added to a pint of foul bilge water, effectually removed all bad odor in three minutes. The action is so remarkable that its success in the disinfection of putrid matters of every kind may safely be assumed. It effectually destroys the foul odors arising from suppurations, and from putrefying and fæcal matters. Having one day imbued my hands with a concentrated solution of carbolic acid, I could not rid myself of the offensive smell. Repeated washings with soap, followed by applications of vinegar, chloride of lime and ammonia, failed. The idea occurred to dip my fingers in permanganate solution. The first application caused a notable diminution of the carbolic odor; after the third it had entirely gone." *Med. Press and Circular.*

Production of the Diamond.—M. Saix, in a memoir upon this subject, describes a process for the manufacture of diamonds, founded on the principle that a current of chlorine, or of hydrochloric acid gas, passing over fused cast-iron, forms perchloride or protocbloride of iron, both of which volatilize, leaving the carbon present in the mineral intact,—since the chlorine ought not to unite directly with the carbon. "The crystallization of the carbon could thus," he says, "be effected; for crystallization is produced in a solution of a substance susceptible of it when the solution is evaporated. The size of the crystals depends upon the slowness of the evaporation."

New Patents Issued to Pacific Coast Inventors.

Especially reported by the U. S. Patent Office, Washington, D. C., to Dewey & Co., American and Foreign Patent Solicitors, and Publishers of the Mining and Scientific Press.

FOR THE WEEK ENDING NOVEMBER 17.

84,110.—Improvement in Hydrocarbon Burners.—John Gray, San Francisco, Cal.:

I claim the above described adjustable burner, consisting of the cylinder B, plug E, adjusting stem D, and openings *a a*, constructed and arranged substantially as described.

This invention relates to the construction of an improved petroleum burner, to be employed more especially in that class of apparatus where steam is generated by the use of either crude or refined petroleum, and it consists in a conical plug or button, around which the inflammable gas escapes from the retort and is spread so as to make a large heating surface. This plug is set into a cylindrical vessel or tube, and is attached to it by means of a stem extending through it and of a smaller diameter than the inside of the tube, to allow the free passage for the vapor on all sides. Openings are made in the tubes of such a form as to allow the vapor from the retort to enter it. The cone or plug is so constructed that it may be moved up or down to regulate the size of the passage, and thereby the size and extent of the flame.

84,125.—Improved Lemon Squeezer.—John Klepzig, San Francisco, Cal.:

I claim the movable button E, with its opening H, the spiral spring F, in combination with the two levers A and B, operating substantially as and for the purpose specified.

In one of the squeezing levers is placed a movable button, which is operated by a spiral spring. By placing the fruit between the two levers and closing them, the juice is expressed through the hole in the button into the tumbler, while the rind of the lemon is pressed closely against the face of the button-lever.

84,157.—Improved Mode of Fastening Straps to Boots.—Peter H. Baker, Virginia City, Nevada.

I claim the plate A, constructed as described, provided upon its outer edges with the long teeth *a*, and upon its inner edges opposite to each other with the short teeth *a*, said plate secured to the boot and strap by inserting the teeth and lapping the outer rows *a* over the inner rows *a*, upon each side of the frame as herein described, for the purpose specified.

84,168.—Contact Pad for Photographic Printing.—Joseph Buchtel, Portland, Multnomah County, Oregon:

I claim the use of the elastic pad *a*, filled with fluid air or gas; and also the eyelets *b*, with the attendant screws, together with the diaphragm *e*, substantially as set forth and for the purpose described.

84,224.—Improvement in Fire Arms.—Chas. Slotterback, San Francisco, Cal. (Antedated May 18th, 1868.)

I claim the combination and arrangement of plate (B), the springs (d), (i) and (l), trigger (k), sear (*g*), and hammer (f) when operated in the manner substantially as shown and described and for the purpose set forth.

RE-ISSUES.

3,200.—Improved Friction Pawl.—Joseph Moore, San Francisco, Cal. Patented May 7th, 1867.

What I claim as an improvement in hoisting apparatus is a pulley which shall be on one hand under the control of a brake bearing upon its outer surfaces and on the other hand connected with the shaft by the pawl and ratchet device, or its equivalent within the pulley, substantially in the manner and for the purposes set forth.

FOR THE WEEK ENDING NOVEMBER 24.

84,304.—Improvement in Anchors.—Carl Wilhelm Roëden, San Francisco, Cal.:

1. I claim an anchor constructed with its fluke-arms B, divided in two pieces and attached to the shank A, as described.

2. I claim the use of metal balls G, as a means of pivoting the arms on the shank, the whole as herein described and for the purposes set forth.

84,316. — Improvement in Carriage Springs.—Anson C. Stowe, San José, Cal.:

I claim the shafts E E, with their cranks or bent arms *d* and *g*, and the connecting rod *c*, together with the links *e e*, and rods *b*, the whole operating on the springs D, as an equalizing device, substantially as herein described.

The object of this invention is to so construct the two side springs of a carriage, that a weight placed upon any portion of the carriage will depress each side equally, and prevent the strain to the springs occasioned by the frequent wrenching they are subjected to in getting in and out of the carriage. The axle-bed and cross-bar of the carriage are connected by reaches, and have at their ends, suspended by shackles, semi-elliptic springs, upon which the body of the carriage rests. Two shafts extend across from one reach to the other, one near each end, each having three bent cranks, one in the center and one at each end, the middle ones being joined by a connecting rod. At each end of the carriage bed is a bar, which passes from one side to the other, both passing across on the same side of the shaft. The outside cranks of the two shafts are attached to the bars above by means of links, thus joining the whole together and causing the slightest weight on one side to be equally distributed, causing a like depression of the springs on both sides.

84,355.—Improvement in Pumps.—Thos. Hansbrow, Sacramento, Cal. Lucy A. Hansbrow and B. B. Redding, executors:

1. I claim the valves F, when their pivots *a* are adapted to fit in recesses formed in the walls of the valve chamber, whereby the heels of said valves have a vertical play while swinging upon said pivots, as herein described for the purpose specified.

2. The pump-barrel A, water-chest B, and valve chest, all cast in one piece, and arranged as described for the purpose specified.

PATENTS OF INTEREST TO THE PACIFIC COAST.

Issued October 13, 1868.

82,925.—Hydrocarbon Burner.—Sutton Edward Crow, Stratford, England. Patented in England, June 14th, 1867.

I claim arranging the apparatus in such manner that a jet or jets of steam under pressure (or, it may be of air) issues into the furnace in a direction parallel, to a pipe or passage by which combustible liquid is led into the furnace, such jet being immediately in rear of and below the mouth of such pipe or passage, substantially as described.

83,003. — Dumping Wagon.— George R. Sneath and C. H. Sneath, Wilmington, Del.

83,005. — Wagon and Car-unloader.—Noah Swickard, Galva, Ill.

83,066.—Fuel from Spent Tan-Bark.—Benjamin Irving, New York City.:

I claim the new manufacture of compressed fuel from spent or refuse tan-bark, by the method or process of forming it into blocks, or other suitable shapes, for fuel and transportation, substantially as herein before described.

83,079.—Baling Press.—John F. Milligan, St. Louis, Mo.

83,122.—Furnace for Roasting and Chloridizing Ores.—Henry Tindall, Chicago, Ill.:

I claim 1, A furnace for treating ores, in which the operation of desulphurizing and chloridizing or chlorinating such ores is performed simultaneously with the roasting of the same.

Issued October 27, 1868.

83,357.—Manufacture of Pigments from the Sulphurets of Zinc and Lead.—Nathan Bartlett, Centerville, N. J., Assignor to himself and Franklin Osgood, Richmond County, N. Y.

83,361.—Mill for Tempering Clay.—George Caruell, Samuel Williams and William Ellis, Philadelphia, Pa.

83,372.—Process for the Manufacture of Iodine.—Jules Fougerat and Lucien A. Tartiere, Quogne, N. Y., Assignors to "The Alga Chemical Works," New York City:

We claim, 1. Filtering the calcinized and boiled mussels, preparatory to their distillation, as set forth.

2. The application of peroxide of manganese to the making of iodine from mussels, as set forth.

3. The process herein specified of producing iodine from mussels.

83,389.—Apparatus for Making Extracts from Tan Bark.—Thomas W. Johnson, New York City.

83,533.—Apparatus for Preserving and Freezing Fish, Meats, etc.—Phillip Nunan, Sandusky, Ohio.

83,542.—Furnace for the Manufacture of Iron and Steel.—Augnste Ponsard, Paris, France.

83,547.—Road Grader.—James M. Ragsdale, McCoy's Station, Ind.

83,551.—Furnace for the Manufacture of Iron and for Other Purposes.—Henderson Ross, Pittsburg, Pa. (Antedated September 30th, 1868:

I claim so constructing the fire chamber of furnaces used in the manufacture of iron and steel, that the interior walls of said chamber shall consist of iron, which are surrounded with water, substantially as herein described, for the purpose set forth.

83,563.—Station Indicator.—Elihu Spencer, Ottawa, Canada.

83,577. — Combined Tools.— John D. Wilkinson and E. O. Boyle, Plattsburg, N. Y.

I claim, combining and securing or pivoting the wire gauge A, dividers C, rule D, square E, and calipers H and F together, when made to correspond in dimensions with each other, as and for the purpose set forth.

83,582.—Extracting Gold and Silver from their Ores.—John W. Kidwell, Washington, D. C.

I claim the use of finely divided iron, prepared according to Bischoff's patent process, in connection with the amalgamation of gold and silver ores, as herein described and set forth.

California Academy of Natural Sciences.

REGULAR MEETING.

Monday Evening, Dec. 7, 1868.

The Vice President, Dr. Cooper, in the Chair; eighteen members present. Elected Resident Members, Messrs. J. J. Owens and Emile Grisar.

Donations to Cabinet.—Two species of trilobite of Silurian age; one from Silver Peak, and one fifty miles S. E. of Eagan Cañon, near White Pine, Nevada. Presented by Mr. J. E. Clayton.

Two species of insect (name not given), from La Paz, by Oscar White.

The larvæ of a luminous insect, presented by Mr. Lorquin.

Specimens of the common *Malva rotundifolia*, the fibre of which is remarkably white and very strong. Specimens of cord made from it were also exhibited. Presented by Amos Bowman, on behalf of W. Frank Stewart, of San José.

Donations to Library.—Flore et Pomone De Java, par Madame Berthé Hoola Van Nooten. Deuxieme Ed. Large Folio, Illustrated, presented by J. B. Caldbach. Exposé Des Formations Quaternaires De La Suide par A. Erdmann, Stockholm, 1868. Atlas 4to and Texte 8vo.

Process Verb. Van de Gewone Vergaderingen der Koninklijke, Akadamie van Wetenschappen, 1866-7, 12mo. Jaarbock van de Koninklijke Akad. van Wet. 1866, 12mo. Verslagen En Mededeelingen der Konnink, etc., 1866, 12mo. Amste Annales des Sciences Naturelles, Zoölogie et Paleon, Paris, 1868. Archives du Musée Teyler, Vol. 1, pts. 1866-7-8; 8vo. Bulletin de La Societe Imperiale Des Naturalist de Moscow, 1867, 12mo.

Path of the Tatal Phase of the Solar Eclipse, Aug. 17-18, 1868, from Aden to Torres Straits.

Loudon Quarterly Review, July, 1868, presented by Mr. Yale.

EARTHQUAKES IN THE KERN RIVER REGION.

Mr. J. E. Clayton read a paper describing the earthquakes in the Kern River region, as observed by Dr. Farnsworth.

A discussion on the theories of earthquakes followed.

Dr. Gibbons remarked that it was a natural tendency of the human mind to aim at new and novel theories to account for phenomena, and if a theory has the merit of being one's own, and novel, a man would defend it as earnestly as a parent will defend his deformed and ugly brat, simply because it is his own. The Electric theory was unphilosophical, and unworthy of a scientific man. Why should we seek for strange and mysterious causes when geology gives us so simple and reasonable an explanation? The study of the earth's surface would satisfy any candid mind that our globe was once much hotter than now, and at some distant period in a melted state. If so, only the outside has cooled as yet, and the interior is still a molten mass. Combustion need not be going on—the heat is there and retains the matter in a melted form, until time is given it to cool. The present contortions of the earth's surface must have been caused through this igneous agency, and when such action takes place, vibrations and tremblings must ensue. Humboldt stood upon the brink of a crater and observed that an eruption was always preceded by rumblings and shocks, exactly like our earthquakes. In this case we know that fire and gases are concerned, and the cause is in the interior; then why not allow that our shocks are produced by this same agency in subterranean caverns? This molten matter is at rest, but when water gains access, combustion ensues, and volcanoes and earthquakes result.

Mr. Clayton said he once unintentionally illustrated another cause in the following manner: He had constructed a tub four feet deep and five feet in diameter. Having filled this tub with water, and wishing to beat it, he inserted a pipe in the water through which he introduced steam for the purpose. The result was, that a series of shocks was produced, and the tub danced around the room like a thing of life, till it was finally rent in pieces. We might have reservoirs of water beneath us—which no one could deny—and a stream of hot water might gain access; the result would be an earthquake. The Geysers were an illustration of these causes on a quiet scale. As a further corroboration of this, he said earthquakes were more frequent in countries where there has been the greatest disturbance of the earth's surface, and hence caverns were more likely to exist. The settling of the earth in places, most probably filled these caverns, and we had seen instances of the water from these reservoirs rising to the surface and forming springs. The earth has also been rent in the same manner that the tub was. Very light shocks are continually taking place from these causes.

Mr. Yale thought that earthquakes were perpetual and not exceptional, but it is only the more severe ones that we experience. When a boy, he once entered the Mammoth Cave in Kentucky with a party, where he remained forty-eight hours. While there, a tremendous thunder-storm took place in the "outer world," "but no sound of that e'er came down to the everlasting depths of those dark solitudes."

Dr. Kellogg also thought the electrical theory unphilosophical. If electricity throws down a chimney simply, it makes a deafening report; how then could it throw up mountains, or shake the earth so silently?

The Chairman stated that it had been decided to make no more appointments of lecturers, but that volunteers would be called upon at each meeting to deliver a lecture at the next, if time permitted.

The next regular meeting will be held on December 21st, 1868, at the rooms of the Academy, 622 Clay street.

Elisha Brooks, Sec.

New Incorporations.—Articles of incorporation have been recently filed in the County Clerk's office in this city as follows:

Railroad Avenue Homestead Association.—San Francisco. Dec. 5th. Capital stock, $56,100; 170 shares, $330 each. Trustees: Andrea Sbarboro, C. F. Brown, Wm. Harvey, Wm. J. Gunn and Geo. F. Walters.

Mechanics' Insurance Co.—San Francisco. Dec. 5th. Capital stock, $100,000; 1,000 shares, $100 each. Trustees: D. Jordan, F. Schwartz, P. Fogarty, J. L. Connell, J. W. Conrad, W. A. Tanks, John R. Fishbeck, John Feehan, W. Y. Weir, Thos. Mooney, M. C. Kennedy, Daniel Norcross, Michael Hayes, Jas. McDonough, Holmes Finnigan, R. Ring, Michael Dolan, C. N. Sharkkart, Conrad Greh, N. F. Neil, H. N. Geils and Robert C. Page.

Patent Sewer and Drain Pipe Co.—San Francisco. Dec. 8th. Capital stock, $100,000. Trustees: J. H. Wise, S. P. Christy, Thomas Dennigan, A. C. Robinson and W. J. X. Robinson.

Tuolumne City Steamboat Co.—San Francisco. Dec. 11th. Capital stock, $7,000; 70 shares, $100 each. Trustees: F. Heinecke, H. Jones, Henry M. Covert and John W. Laird.

It is said that Calisaya Bark has a peculiar effect upon the liver, and guards the system against diseases by exposure and irregular diet. It is conceded that the great success of the wonderful Plantation Bitters, which, previous to our late unhappy difficulties, was found in most Southern homes, was owing to the extract of Calisaya Bark which it contained as one of the principal ingredients. In confirmation of this we have heard one of our distinguished Physicians remark that whenever he felt unwell from ordinary dietetic or atmospheric causes, he invariably relieved himself by Plantation Bitters. We speak advisedly when we say we know it to be the best and most popular medicine in the world.

Nevada City, Nov. 3d, 1868.

Messrs. Dewey & Co.—Gentlemen:—Your favor of the 30th ult., is just received, informing me of the successfull prosecution of my application for a patent on my "Hair Cutting Shears." Please accept my sincere thanks for the speedy and successful manner in which you have conducted the case, and believe me, as ever,

Very truly yours, Lee D. Craig.

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board.

San Francisco, December 12, 1868.

City Stocks.

We note sales of Spring Valley stock at $65 25 @$65; San Francisco Gas at $79 25@ 76 25, and $77 ₱ share. A few shares of Oakland Railroad stock sold at $57 50.

The Bank of California will pay its usual monthly dividend on the 15th inst. The Merchants' Mutual Marine Insurance Co. disbursed its usual dividend on the 10th.

The Mechanics' Insurance Co. filed a certificate of incorporation in the office of the County Clerk on the 5th inst., with a capital stock of $100,000, in 1,000 shares of $100 each. Place of business, San Francisco. Directors—D. Jordan, F. Schwarz, P. Fogarty, J. L. Connell, J. W. Conrad, W. A. Tauks, John R. Fishbeck, John Fechan, W. Y. Weir, Thomas Mooney, M. G. Kennedy, Daniel Norcross, M. Hayes, James McDonough, Holmes Finnigan, R. Ring, Michael Dolan, C. N. Shurkkart, Conrad Greh, N. F. Neil, H. N. Geils and Robert C. Page. It will be noticed that the names of the Directors of the Builders' Insurance Co. are freely interspersed in the above, among the rest that of Thomas Mooney.

Mining Share Market.

The mining share market, for the period under review, was less active, and the fluctuations in prices did not cover so wide a range as the previous week. Considering the rather quiet market, prices have been well sustained. At the close considerable improvement is noticeable in several of the leading stocks, predicated upon better indications in their lower workings.

Savage—opened at $70@68 50, improved to $77 50, then sold at $74, and closed at 77. The November receipts of bullion aggregate $119,760, while in October the receipts amounted to $128,000, and in September $140,000. A dividend of $4 ₱ share is payable to-day (the 12th inst.) On the fifth station no pay ore has yet been encountered, while the Potosi chimney—on the third station—again, it is said, yields considerable ore.

Imperial—rose from $102 to $121, and closed at $116. The receipts in November amounted to $35,943 63, against $58,229 17 in October. From a dispatch dated the 11th, we learn that they "found two feet of ore on the 900 level, which assays $30 to the ton."

Chollar-Potosi—sold within a range of $148 @163, and closed at $162. During the week ending December 4th, they extracted 1,400 tons of ore, against 1,237 the previous week. The ore recently taken from the mine requires more careful sorting, and the stope does not look as well as it did several weeks ago. The sinking of the incline has been suspended for the present. Bullion returns in November amounted to $102,722, against $112,898 in October, and $78,013 in September.

Yellow Jacket—fluctuated considerably the past week, opening at $1,475, declining to $1,260, improving to $1,390, and at the close selling at $1,353. The *Safeguard*, of the 5th inst., has the following: "The company will declare another dividend on the 1st of January next (probably $300), and after that date the stock of the company will be sold in shares of twenty to the foot. It is thought the office of the company will be removed to San Francisco, and that dividends will he declared monthly after the date named. The shaft is fifty feet below the 900 level, and work will be suspended in the bottom of the shaft pending the contemplated repairs to the pump, the fifty feet sump, meautime, serving as a reservoir to catch the water. A large quantity of first-class ore has been sacked in the east drift, 900 level, although operations in that part of the mine have not been very active during the past week. The north drift, 800 level, which also cut the same body of ore, is looking well. Work will he suspended about three days for repairs. Among the improvements to be made, will be the putting up of an eight-horse power engine to run a blower to furnish the lower level with fresh air. This engine will also run two saws in the carpenter shop—one to saw timbers for the mine, and the other to saw wedges, instead of hewing them out, as heretofore, which will greatly facilitate the timhering of the mine."

Gould & Curry—improved from $96 to $106, and closed at $103. The sinking of the main shaft has been suspended until the shaft is thoroughly repaired. The annual meeting of the company will take place on the 28th inst. An assessment of $15 per share was levied on the 5th inst.

Belcher—was in the market at $175@ 190. This company has commenced the shipment of ore. It is reported that the rock in the east drift, from the 730 level, is easily extracted, and it is believed the ledge will be reached in the course of several weeks.

Mexican — came into the market at the close of last week, a few shares selling at $20. This mine is now incorporated and placed on the Stock Board list. In early days it was among the most noted on the Comstock, and at one time would have commanded higher figures in the market than any other claim on it. Alsop & Co., the English bankers, we believe, bought it in the spring of 1861. Since that time, however, this firm has declined an offer of $1,400,000 for the mine and improvements, and very recently closed the whole concern out for $12,000. At the present time the mine is in the hands of contractors, who are engaged in retimbering the old shaft. They (the contractors) furnish all the necessary tools, engine, etc., and receive in payment for the improvements made, a large amount of ore, such as may be taken from the mine, at nominal figures.

Empire—realized $112 50@115. The receipts for November amounted to $16,908, against $16,804 in October, and $18,837 in September. ....Confidence sold at $37. The November bullion returns foot up $13,983, against $22,831 in October....Gold Hill Quartz shows a yield of only $2,326 for the month of October, being the result of only one week's run, the mill idle the balance of the mouth for repairs. This rock sold at $48@50....Segregated Belcher sold at $8@8 50. This mine is reported to look more favorable of late.

Crown Point—advanced to $53, closing at $51. The receipts of bullion during the month of November amounted to $51,515, and tho disbursement for the eamo time foot up $48,447. In September the bullion returns aggregated $44,369....Kentuck shows a yield of $86,096 78 in bullion for November accouut; the October returns amounted to $69,145....Amador yield for November amounted to $47,160. This mine continues to look as well as heretofore reported....Occidental sold at $25. It is reported that tho yield of this mine during the month of Novemher was $39,900.

Hale & Norcross—improved from $69 to $83 50, then at $78, and closed at $81. The drift is now in and timbered about 100 feet.... Overman shows a bullion yield of $34,000 in November.

Lady Bryan—sold to a larger extent than for a long time past, opening at $17 50, declining to $13, rising to $18, and closed at $17. The shaft is down 180 feet, and a croes-cut at that depth has developed a hody of good ore 2 feet thick, which appears to widen out as sunk upon. The rock worked from this mine herctofore has heen from the croppings, but it is thought a considerable quantity of high grade ore will soon be ready for milling.

Alpha—sold within a range of $33@41 50, and at the close realizing $43.....Ophir sold at $34@36.

Bullion sold at $18@20. "The incline from the 1200-feet level (1,275 feet) is now down 40 feet, is progressing at the rate of 2½ feet per day, and will be steadily pushed to a depth of 200 feet—making a total depth of 1,475 feet. Drifting on the 1200-feet level is also heing carried on."

New Zealand Gold, again.—The *Standard*, Oct. 10th, gives an extract from a letter received from a colonist, a part of whieh we quote: "The Shotover claim has not been worked six months yet, and the owners have taken more than 40,000 ozs. of gold out already. The drawbaek at present is the want of machinery, but there will soon be plenty of that. In November last I got into a claim along with some other men, whieh, I am glad to say, is turning out well. The name of our elaim is the Star of the South. We had twenty-four tons of quartz crushed whieh turned out 124 ounces, or at the rate of five ounces to the ton. I sold half my share for 10*l*. shortly after I got iuto the elaim, for want of money, but since then the man that I sold it to has sold it again for 200*l*. Several shares have been sold out of the elaim for 270*l*. I was offered 220*l*. for my half share, but refused it."

By Express.—Two cents per copy will be added to our usual rates of subscription (to pay Wells, Fargo & Co's tariff on papers sent by express. If connecting expresses in the interior make additional charges, subscribers must themselves settle the same.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND RATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE.
Adriatic, Storey co.	Annual Meeting, Jan. 4	
Alpha, Storey co., Nev., Dec. 3, $10	Jan. 5	Jan 25
Amador Co., dividend, $5 per share	Payable Nov. 20, 1868	
Alamo, Lyon co., Nev., Nov. 25, 35c	Dec. 31	Jan. 30*
Bullion, Aug. 19, $10	Payable immediately	
Bacon, Storey co., Nev., div.	Payable June 19, 1868	
Belcher, Storey co., Nev.	Annual Meeting, Dec. 21	
Cherokee Flat, Butte co., Dec. 9, $5	Jan. 11	Jan. 26
Chalk Mt. B. G. Nevada co.	Special Meeting, Jan 7	
Chipiouena, Mexico, Nov. 6, $2.50	Dec. 11	Dec. 23*
Chollar-Potosi, div. Nov. 5	Payable Oct 15, 1867	
Crown Point, dividend, $7.50	Payable Sept. 12	1868
Colorado, Arizona	Annual Meeting Dec. 28*	
Diamond cop., Del Norte co., Oct. 23, $2	Nov. 10	Dec 28*
Folsom St & Fl. R. R., Nov. 13, $5	Dec. 15	Dec 26
Fogus, Amador co., Oct. 23, $2.5	Nov. 21	Dec. 12*
Eureka, div. $5	Payable Nov. 20, 1868	
Empire M. & M., Nev., dividend $6	Payable May 15, 1867	
Empire, Storey co., Nev.	Annual Meeting Dec. 16	
Gould & Curry, Storey co., Nev., Dec. 5, $15	Jan. 9	Jan. 29
Gould & Curry, div. $7.50	Payable May 15, 1867	
Gold Hill Q M & M—dividend, $7 50	Payable July 13, 1868	
Golden Rule, Tuolumne co. div. 50c ₱ sh.	Payable Aug. 23*	
Great Central, Arizona, Oct. 9, $2.50	Nov. 16	Dec. 30*
Hale & Norcross, div. $125	Sept. 16, 1867	
Hopo Gravel, Nevada co, Nov 18, $1	Dec. 22	Jan. 11*
Hanscom cop., Del Norte co.	Annual Meetin', Dec. 21	
Imperial, Storey co., Nev., div.	Payable June 20, 1868	
Julia, Storey co., Nev., Oct. 22, $1 50	Nov. 25	Dec. 14
Kentuck, div., $30 per share	Payable Dec. 10, 1868	
Maxwell, Amador co., Nov. 13, $2.50	Dec. 14	Jan. 5
North Star, dividend, $5	Payable Aug. 15, 1868	
Nevada County M. Co., $1	Nov. 18	Dec. 19*
Overman Storey co., Nov. 13, $20	Dec. 16	Jan. 4
Ophir, Storey co., Nev., Nov. 9, $3	Dec. 12	Jan. 2
Ophir, Storey co., Nev.	Annual Meeting, Dec. 16	
Oriental, Sierra co., Nov. 9, $2	Dec. 11	Dec. 30
Pacific Unassessable, div.	Payable June 18, 1868	
Rippon, Alpine co., Oct. 15, $1	Nov. 23	Dec. 17*
Rising Star, Idaho, Nov. 16, $10	January 4	Jan. 30
S. F. & Castle Dome, Arizona, Nov. 25, 3c	Dec. 23	Jan. 12*
Santiago, Silver City, dividend, $2	Payable Nov. 20, 1868	
Senator, Storey co., Nev., Nov. 2, 50c	Dec. 1	Dec. 24*
Savage, Virginia, Nev. dividend, $4	Payable Nov. 12, 1868	
Sand Spring salt, dividend $1	Payable June 5, 1868	
Sierra Nevada, Nev., Nov. 16..$2.5	Dec. 18	Jan. 5
U. S. Grant, Nevada co., Nov. 9, 50c	Dec. 15	Jan. 2*
Virginia & G. H Water Co. Dividend, payable Nov. 20, 1868		
Yellow Jacket, div., $300	Payable Nov. 10, 1868	

Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. Stock and Exchange Board.

Friday Evening, Dec. 11, 1868.

Miscellaneous stocks.	Bid.	Asked.
United States Bonds, 5 20s, 1865, '67, '68	$ 80½	81½
United States Bonds, 5 20s, 1864	79	80
United States Bonds, 5-20s, 1862	80½	81½
Legal Tender Notes	73¼	73¾
California State Bonds, 7s, 1857	95	95
San Francisco Bonds, 10s, 1851	par & int.	
San Francisco City Bonds, 6s, 1855	—	—
San Francisco City and County Bonds, 6s, 1858	85	87½
San Francisco School Bonds, 10s, 1860	100	—
San Francisco School Bonds, 10s, 1861	par & int.	
San Francisco City and Co. Sch'l B'ds, 7s, 1866	90	—
San Francisco City and Co. Bonds, 7s, 1862	87½	89
San Francisco City and Co. Bonds, 7s, 1864	87½	89
San Francisco City and Co. Bonds, 7s, 1865	87½	89
San Francisco City and Co. Judg. Bds. 7s, 1863	87½	89
San Francisco City and Co. Judg. Bds, 7s, 1864	87½	89
Sacramento City Bonds	24	25
Sacramento County Bonds, 6s	70	74
Marysville Bonds, 10s	75	80
Stockton City Bonds	60	70
Yuba County Bonds, 8s	77	79
Santa Clara County Bonds, 7s	75	77
Butte County Bonds, 10s, 1867	70	75
San Mateo County Bonds, 7s	75	80
California Steam Navigation Co	62½	55
Spring Valley Water Co	65	65¼
State Telegraph Co	20	—
Gas companies.		
San Francisco Gas Co	76¾	77
Sacramento Gas Co	—	73¾
Railroads.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	70	—
Central Railroad	49	52
North Beach and Mission Railroad	66	68
Front Street, Mission and Ocean Railroad	11	12
Banking institutions.		
Pacific Bank	97½	100
The Bank of California	157	158
California, Loan and Savings Society	—	—
Insurance companies.		
Firemans' Fund Insurance Co.	92½	94
Pacific Insurance Co	124	125
San Francisco Insurance Co	—	105
Merchants' Mutual Marine Insurance Co	500	525
California Insurance Co	1300	1400
Union Insurance Co	92	93
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	72	—
National Insurance Co	72	—
Builders' Insurance Co	—	—
Mining stocks—Washoe district.		
Alpha	42	43
Baltimore American	—	—
Belcher	187½	190
Bullion, G. H	13	13½
Crown Point	52½	53
Gold (W.)	10	11
Confidence	40	41
Consolidated Virginia	9	12
Chollar-Potosi	162	163
Daney	4	4½
Exchequer	20	25
Empire Mill and Mining Co	115	118
Gould & Curry	102	104
Gold Hill Quartz	50	55
Hale & Norcross	68	81
Imperial	116	118
Kentuck	254	268
Julia	3	4
Justice and Independent	10	15
Lady Bryan	16½	17
North American	—	—
Ophir	36	—
Overman	49½	50
Segregated Belcher	8	8¾
Savage	76	77
Sierra Nevada	—	—
Yellow Jacket	1350	1355
Union	—	—
United States	—	—
Miscellaneous mining stocks.		
Amador (California)	210	236
North Star (California)	—	—
Eureka (California)	210	—
De Soto (Humboldt)	—	2
Golden Rule, California	6	—

San Francisco Market Rates.

Wholesale Prices.

Friday, Dec. 11, 1868.

Flour, Extra, ₱ bbl	$5 25	@$6 75
Do. Superfine	4 75	@ 4 75
Corn Meal, ₱ 100 lbs	3 25	@ 3 50
Wheat, ₱ 100 lbs	1 50	@ 1 90
Oats, ₱ 100 lbs	1 75	@ 2 15
Barley, ₱ 100 lbs	2 05	@ 2 30
Beans, ₱ 100 lbs	3 00	@ 3 50
Potatoes, ₱ 100 lbs	75	@ 1 10
Hay, ₱ ton	12 00	@21 00
Live Oak Wood, ₱ cord	9 00	@10 00
Beef, extra, dressed, ₱ lb	—	@ 10
Sheep, on foot	3 00	@ 3 25
Hogs, on foot, ₱ lb	4½	@ 5
Hogs, dressed, ₱ lb	7	@ 8
Groceries, etc.		
Sugar, crushed, ₱ lb	—	@ 17
Do. China	10	@ 12½
Coffee, Costa Rica, ₱ lb	17	@ 17½
Do. Rio	—	@ 17
Tea, Japan, ₱ lb	75	@ 80
Do Green	60	@ 1 25
Hawaiian Rice, ₱ lb	9	@ 10
China Rice, ₱ lb	6	@ 7
Coal Oil, ₱ gallon	45	@ 50
Candles, ₱ lb	15	@ 18
Ranch Butter, ₱ lb	60	@ 75
Isthmus Butter, ₱ lb	30	@ 45
Cheese, California, ₱ lb	15	@ 21
Eggs, ₱ dozen	50	@ 55
Lard, ₱ lb	13	@ 14
Ham and Bacon, ₱ lb	14	@ 18
Shoulders, ₱ lb	6	@ 8
Retail Prices.		
Butter, California, fresh, ₱ lb	80	@ 90
do. Kirkham, ₱ lb	30	@ 40
do. Oregon, ₱ lb	20	@ 25
do. New York, ₱ lb	35	@ 45
Cheese, ₱ lb	20	@ 25
Honey, ₱ lb	25	@ 30
Eggs, ₱ dozen	—	@ 75
Lard, ₱ lb	15	@ 17
Hams and Bacon, ₱ lb	20	@ 25
Cranberries, ₱ gallon	—	@ 1 00
Potatoes, ₱ lb	1½	@ 2
Potatoes, Sweet, ₱ lb	3	@ —
Tomatoes, ₱ lb	3	@ —
Onions, ₱ lb	3	@ —
Apples, No. 1, ₱ lb	4	@ 5
Pears, Table, ₱ lb	5	@ 7
Plums, dried, ₱ lb	11	@ 13
Peaches, dried, ₱ lb	—	@ —
Oranges, ₱ dozen	75	@ 1 00
Lemons, ₱ dozen	1 00	@ 1 20
Chickens, apiece	50	@ 75
Turkeys, ₱ lb	24	@ 25
Soap, Pale and C. O	7	@ 12
Soap, Castile, ₱ lb	—	@ 20

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

Friday Dec. 11, 1868.

Iron.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1¾c ₱ lb; Pipe, 1¾c ₱ lb; Galvanized, 2¼c ₱ lb.

Scotch and English Pig Iron ₱ ton	$35 00	@$36 00
White Pig ₱ ton	— —	@ 36 00
Refined Bar, bad assortment ₱ lb	— 03	@ — —
Refined Bar, good assortment, ₱ lb	— 04	@ — —
Boiler, No. 1 to 4	— 04¾	@ — —
Plate, No. 5 to 9	— —	@ — 04¾
Sheet, No. 10 to 13	— 04¾	@ — 5
Sheet, No. 14 to 24	— 05	@ — 5¼
Sheet, No. 24 to 27	— 05	@ — 05¾

Copper.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb

Sheathing, ₱ lb	— —	@ — 26
Sheathing, Yellow	— 20	@ — 21
Sheathing, Old Yellow	— 21	@ — 11
Bolts	— 21	@ — 22
Composition Nails	— 21	@ — 22

Tin Plates.—Duty: 25 ₱ cent. ad valorem.

Plates, Charcoal, IX, ₱ box	12 00	@ — —
Plates, I C Charcoal	— —	@ 11 00
Roofing Plates	10 00	@ 10 50
Banca Tin, Slabs, ₱ lb	— —	@ — 30

Steel.—English Cast Steel, ₱ lb — @ — 15

Quicksilver.—₱ lb — 55 @ — 60

Lead.—Pig, ₱ lb — 7½@ — 8

Sheet	— 10	@ — —
Pipe	— 11	@ — —
Bar	— 09	@ — 09½

Zinc.—Sheets, ₱ lb — — @ — 09¾

Borax.—California, ₱ lb — 20 @ — 23

New York Metal Market.

[Corrected weekly from the American Artisan.]

New York City, Nov. 7, 1868.

Iron.		
Pig, Scotch, No. 1 (cash) ₱ ton	$39 00	@$44 00
do. American, No. 1 (cash)	37 00	@ 38 00
do. do. No 2	33 00	@ 36 00
Swedish, ordinary sizes	155 00	@165 00
Common	90 00	@ 95 00
Refined	95 00	@115 00
Rods	100 00	@120 00
Horse-shoe	125 00	@ — —
Hoop	100 00	@100 00
Scroll	130 00	@175 00
Nail rods, ₱ lb	— 9½	@ — 10
Spring	— 10	@ — —
Tire	— 10¾	@ — —
Steel.		
Bars, best cast, warranted, ₱ lb	— 25	@ — —
Sheet, do	— 23	@ — —
do. second quality	— 20	@ — —
do third quality	— 17	@ — —
Saw-plates, circular	— 30	@ — —
Double-shear, warranted	— 23	@ — —
Single do	— 20	@ — —
Montague & Co. (cast bars)	— 19	@ — —
Machinery, round	— 16	@ — —
German, best	— 17½	@ — —
do. seat	— 14½	@ — —
do. eagle	— 13	@ — —
Blister, warranted	— 17	@ — —
do. common	— 16	@ — —
Jessop & Sons' common	— 20	@ — —
Double refined	— 26½	@ — —
Stone-axe shapes	— 26½	@ — —
Tin.		
Tin-plate, prime charcoal, per box	9 00	@ 15 75
Banca, ₱ lb	— 39	@ — 40
Straits	— 35	@ — 36
English	— 35	@ — 36
Copper.		
Sheathing, ₱ lb	— 31	@ — 32
Sheet	— 36	@ — —
Bottoms	— 40	@ — —
Lead.		
American, ₱ 100 lbs	9 50	@ 9 75
German	10 00	@ — —
Bar	10 00	@ 10 25
Pipe and Sheet	10 50	@ 11 00
Zinc.		
Musselman and American, ₱ lb	12 00	@ 12 50
Brass.		
High, various widths, ₱ lb	— 46	@ — 52
Platers'	— 51	@ — 59
Sheet	— 48	@ — 55
do. circular	— 53	@ — 63
Low	— 50	@ — 56
Wire	— 47	@ 1 15
Sundries.		
Solder, ₱ lb	— 20	@ — 22
Antimony	— 17	@ — 18
Nickel	— 9	@ — 10
Copper, old	— 17	@ — 19
Brass, old	— 13	@ — 14
Nails, roofing, ₱ keg	9 50	@ — —
do. do. tined	10 00	@ — —

Substitutes for Tanners' Bark.—Some Boston men have commeneed running a tannery in East Leverett, Mass., using but little hemlock bark, but instead sweet fern, hard-haek, mayweed, and some astringent drugs. The local papers state that they pay forty dollars per ton for hard-haek and sweet fern.

Mining Summary.

THE following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County.

Markleeville *Miner*, Nov. 28th: L. L. Lewis, Supt. of construction of the Monitor Consolidated Co. will put on an increased force next week, and push the work of finishing the flume, and get the mill running with all possible dispatch. The success of the Morning Star Co. in treating their ores by chlorination, has more clearly defined the course of those having mines and mill property in this county.

Chronicle, Nov. 28th: The working of the Morning Star ore by the chlorination process at the Pioneer mill, Markleeville, has proved a grand success. The successful working of this ore will be of incalculable benefit to Alpine County. The company have a heavy body of ore in their mine.

On Tuesday last J. G. Slaven, Supt. of the I. X. L. claim, shipped from this place, through Wells, Fargo & Co., 912 ozs. of bullion from ore from the above mentioned mine.

The finishing touches will be put on the new hoisting works of the Morning Star Co. to day, and the fires will be started up next Monday.

F. A. S. Jones has lately commenced work on the Michigan Tunnel & Mining Co's claim—the original location on the well-known Tarshish ledge. He has started a tunnel to pierce three parallel ledges. The Tarshish ledge will be cut at a distance of 700 ft. The tunnel will be run, night and day, a distance of 4,000 ft.

Calaveras County.

Mokelumne Hill *Chronicle*, Dec. 5th: The Whisky Slide correspondent writes: After leaving the Kennedy mine I visited the mill, and found it pounding the precious metal from Petticoat rock. They are now receiving at the mill a lot of ore from the Hopper & Chapman mine. This mine was discovered about two weeks ago, and bids fair to rival in richness anything before discovered in the district. They have 30 tons of rock to crush that they estimate at $80 per ton. The miners in the locality of West Point appear to be doing well.

Kern County.

Havilah *Courier*, says: Two hundred dollars were recently taken from two pounds of rock from Mr. Kneadney's mine, near Havilah.

Nevada County.

Transcript, Dec. 2d: The Erie mine, at Enreka, upon which machinery was put recently by O. Crandall, promises to be one of the best mines in that vicinity. After getting their new pump in operation the mine was worked seven days, and 105 ounces of amalgam taken from the batteries alone. The gold from this mine is worth $18 per ounce. The connection has been made between the two shafts, and the ledge which is exposed for some distance looks well in every part.

Dec. 3d: Some time ago a company of Chinese bought a mine at Mauzanita Hill, Sweetland, and commenced work. The "Melican" miners had been running for the lead on the west side and south end of the hill. The Chinamen made average runs, taking out about $3,000 at each clean up, and started in on the east side near Wood's hotel. A short time since they struck the true lead, and have since been taking out from $12,000 to $14,000.

Gazette, Dec. 3d: A new quartz ledge has recently been discovered three-fourths of a mile from the Salathiel mill, with flattering results. The ledge has been christened the Cocomongo.

Dec. 4th: The first clean up from the Hitchens & Larrimer ledge at Grass Valley, since it has been under the management of Frank Morse, was made on Tuesday last. The result was a brick worth about $6,100. This amount of bullion was the product of 124 loads of quartz, the rock yielding nearly $48 per ton. The ledge has been christened the "Bay State." The rock was crushed at Ben. McAuley's mill, but the old Larrimer mill will soon be in working order so that rock can be crushed at the mine.

Stidger, Evans & Co., yesterday purchased the mining claims of the Granite Tunnel Co., on Buckeye Hill, in Bridgeport township, paying therefor, $50,000. These claims are adjoining the celebrated Buckeye Hill claims of Stidger, Evans & Co., and have yielded during the last 18 months over $180,000.

This purchase, in connection with the Buckeye Hill claims, makes one of the most extensive and valuable hydraulic claims in the State.

Grass Valley *Union*, Dec. 3d: A new and splendid looking quartz ledge, which is to be called the Safety, has been struck close by this town. The rock shows free gold and plenty of heavy sulphurets, and will pay from $15 to $20 per ton on the croppings.

We understand that the Channel Co., whose locations are on Squirrel Creek below Rough and Ready, made arrangements in San Francisco to get means to run a bedrock flume in that creek. The claims of this company are virgin, and contain good gravel.

Grass Valley *National*, Dec. 2d: The claims of the Consolidated Channel Co., at Peron Valley, having been examined and confirmed by the U. S. Land Office at Sacramento, there is nothing to prevent the speedy working of these extensive and rich gravel claims.

Transcript, Dec. 6th: Some very extensive mining operations are being conducted in Birchville Mining District, Bridgeport township. Buckeye Hill has heretofore been worked from the north side by the Buckeye Co., composed of about a dozen persons. The Granite Tunnel Co. have been running into the same hill from the south side. This is an incorporated company. The Tunnel Co. got out of grade in their tunnel, but the Buckeye tunnel was deep enough to work all the ground about which a question of title had been raised by the two companies. Efforts were made to settle the question, the Buckeye offering $40,000 to the other company, but no adjustment could be agreed upon, and recourse was had to the Courts. Suit was commenced in the District Court, asking an injunction and assessing damages at $20,000. The suit was a few days since compromised by the Buckeye buying out the Granite Tunnel Co. for $60,000. The Buckeye Co. has been taking out from $20,000 to $24,000 after each run, and by this purchase the company obtains undisputed possession of a large range of excellent gravel, and will not only be able to work its own ground, but also that heretofore held by the Granite Tunnel Co.

Grass Valley *National*, Dec. 4th: Mining locations are being made as frequently as in the palmy days of the fall of "'49 or the spring of '50," and White Pine will have to look sharp to its laurels. We have chronicled at least a dozen locations within as many days, and still the work goes on. Another ledge was located yesterday which promises to be a valuable one, showing the precious metal in abundance. It has been christened the Sargent.

We were shown to-day a bar of gold weighing 60 ounces, and worth $1,200, the yield of ten tons from the Banner mine.

Dec. 5th: Sam. Locke, Superintendent of the Hope Gravel Mining Co., showed us to-day some dust worth at least $1.50, the product of a single pan of dirt. There is plenty of rich gravel.

Dec. 6th: Arrangements are being made to have a crushing from the Sargent ledge, and the Superintendent says he would not give a cent to be insured $20 per ton for the first 40 tons from the croppings. The Sargent may be set down as a good thing in the future.

Frank Morse, who had a good crushing a few days since from the Higgins & Larimer ledge, is making his arrangements to sink on the ledge, and has let a contract for that purpose. The Higgins & Larimer rock will pay its way.

Jo. Perein's mill, on Wolf Creek, is crushing a large lot of rock from the Grant ledge, which is situated in the neighborhood of Forest Springs. The Grant has always turned out well, and the present crushing will run as high as $70 per ton, according to estimates made by good judges.

The Boyce mine, near the Eastern boundary of the town, continues to yield good rock. A crushing of this rock will come off next week, and several more of our enterprising miners will be in funds.

Placer County.

Grass Valley *National*, Dec. 5th: The Fortuna mine is located near Yankee Jim's, Placer County. The ledge will average four ft. in thickness. A tunnel has been run 100 ft. on the ledge, and a shaft sunk 30 ft. in depth. The surface rock has yielded $10 per ton, exclusive of the sulphurets. There is an abundance of water and timber at hand, and rock can be taken out and milled at an expense not to exceed $5 per ton. Over 250 tons have been already taken out. John Phillips, one of the owners, brought up some of the sulphurets for assay. They were worked at Oscar Maltman's works on the Nevada road and yielded at the rate of $165 to the ton. The sulphurets were not well cleaned, containing nearly 40 per cent. of sand, and it is expected that the clear article will be worth at least $240 per ton.

Plumas County.

Quincy *National*, Nov. 28th: Goodwin & Co. are making good wages in the old claims at this place. The company are running a tunnel in the lower end of the old Gloyd claims. It is believed by miners who are familiar with the ground, that the lead runs through a point of the hill at this place, and is covered by a slide.

Dickerson & Co. have commenced work on the old Massac ravine, which is situated some three miles back of Johnson's Ranch, in this valley. This ravine was partially worked several years ago, and abandoned. The company are putting in a large flume, and from the way the ground prospects they think they have a good claim.

At Sawpit Flat and Washington Hill the miners are taking out large quantities of pay dirt. The Buckeye, American and Union companies have water to wash up every day. Their claims are paying largely; from $8 to $16 a day to the hand. At Nelson Point we are informed that Fell & Co. are making big wages; so are Stevens & Fowler.

Sierra County.

Nevada *Gazette*, Nov. 30th: One of the most productive and promising quartz mining localities in the State, is the Sierra Buttes district, in Sierra County. The leading mineral vein, on which the principal mines are located, is the Aerial, which lies along the southerly slope of the mountain, runs nearly east and west, and dips northerly into the mountain. The famous Reis mine has been the longest worked and is best known, and is now producing from $40,000 to $45,000 a month. Two mills, one of 12 and the other of 16 stamps, are kept running constantly, and about 20 men are employed in the mine and mills. Adjoining the Reis Co. on the same vein, are the claims of the Woods Co. on the west, and of the Kentucky Co. on the east. The Woods Co. have two very large chimneys on their ground, from which they are taking out good rock, and keep supplied their 24-stamp mill. The company employs 90 men. The Kentucky mine is now owned by Bishop & McKenzie, who have 3,000 ft. on the main vein, including four large ore chutes or chimneys. A considerable quantity of rock taken from these chimneys has been packed a mile on mules and worked in arastras, and yielded more than sufficient to pay expenses. The owners have recently leased the Phœnix mill, which they will keep running this winter, having constructed a wagon road from their mine to the mill. They are endeavoring to effect arrangements to put up a large mill next spring, as they could easily keep 40 stamps employed. Besides the main vein there are numerous smaller ones forming a junction with it, some of which are of good size and carry rich ore. Among these are the Phœnix, Hawkeye, Rose and Cliff. The two latter join the Aerial on either side, near the easterly end of the Reis ground, and form a large and very rich pay chimney. The district is one of the most promising in the State, and affords a fine field for prospectors and the investment of capital.

Downieville *Messenger*, Dec. 5th: A chunk of gold weighing 9¾ ozs., was recently found in Johnson's diggings at Galloway Hill. These claims are reported to have been paying well most of the time this year.

The Independence mill is being rapidly rebuilt, and so situated as to be secure from all future snow slides. It will not be long before it will be running once more.

The Belmont *Champion*, of Nov. 28th, gives the following account of the discovery of a new mining district, which shows the high state of excitement which exists in that portion of the county. Saturday morning last, Shoshone Jack brought into town a few pieces of rock which he had broken from a ledge 50 to 60 miles south of this place. Jack came in search of Myers, in whose employ he has been a greater portion of the time for the past two years. Upon finding him, Jack gave him the ore, and also a description of the locality, size of ledge, etc., in the best English at his command. Myers and Billy Taylor had a portion of the rock tested, which gave an assay of $351 per ton. Sunday evening a party was made up for the purpose of visiting the place described by Jack. It was arranged that Myers, Capt. Watson, Geo. Pridham and the Indian who had informed Myers and Taylor that no white man nor any other Indian knew anything about the locality of the ledge, were to start early on Monday morning. In the meantime other parties had got an inkling of what was in the wind, and Schram found two Indians who said they knew the spot where Jack had got the rock, and proposed to go with him to the place. Schram, with the two Indians, left town about 11 o'clock Sunday night, with a supply of provisions sufficient to last them for six or eight days. About eight o'clock Monday morning Pridham, Watson, Myers, and their Indian left town in a light spring wagon for the new El Dorado. By 10 o'clock, news of the new and rich discovery had been spread throughout the town, and by half-past 10 parties commenced leaving on horseback in pursuit of the wagon. From this time until 12 M. every five minutes witnessed a new departure, whilst many who had no horse to ride, no money with which to pay for the hire of one, and none to hire, if they had, were running about the streets as if wild, cursing their luck. The first party overtaking the wagon, after "sparring" for a time, when interrogated as to where they were going, etc., acknowledged that they had heard of the late discovery and concluded to go along with them and locate an extension on the "big thing." The next party coming up with the wagon informed the party that all Belmont was on their trail in hot pursuit. Upon receiving this information Myers and company, as any other sensible men would have done, returned home and locked the Indian up in a private room for safe keeping and future operations. In a short time the "Smart Alecks" commenced putting in their appearance, looking very much as if they had been badly sold. Every manœuver of the party having possession of the Indian was closely watched, but notwithstanding the close watch kept, about eleven o'clock that night Billy Taylor left town with the Indian, and succeeded in alluding all pursuit. When it was ascertained that the Indian, in company with one or two men, had left, the excitement became terrible; parties mounted their horses and rode all night in search of Taylor and the Indian, but not succeeding in finding them, they returned on Tuesday, by which time the town had begun to assume something of its usual quietness. On Tuesday evening all the parties returned to Belmont, and from Schram we learn that he found and located the ledge at 12 o'clock on Monday, and that it is at least eight feet wide, and crops out above the ground for several hundred feet; that it has but little if any dip—and that to the east; that the ore very much resembles that of the Highbridge; also, that Taylor and his company arrived at the spot about a day and a half too late to secure the first location, but just in time for choice extensions. Schram brought in some of the ore, which assays away up in the hundreds.

Yuba County.

Marysville *Appeal*, Dec. 4th: L. Ackley informs us that the Smartsville Consolidated Hydraulic Mining Co. and the Blue Point Gravel Mining Company are preparing to make the largest blasts ever made in this State. It is expected that everything will be ready by the 15th inst, when 1,200 kegs will be discharged by galvanic battery by the former company, and 800 kegs by the latter.

ARIZONA.

Prescott *Miner*, Nov. 14th: We learn that work will soon be resumed on the Platanca silver lode, which is near the Sterling. A shaft 15 feet deep has already been sunk upon the ledge, and it is the intention of the owners to have work commenced in the old shaft and sink it still deeper. The Platanca is very rich in silver, and its proximity to the Sterling mill and sulphuret works make it a very desirable mine.

We learn that from four to seven tons of rock are being got out of the Sterling mine every 24 hours. The mill will soon be started on refuse rock, in order to find out defects in sluices, machinery, etc., and remedy them before commencing to run through rich ore. Work on the furnace is delayed on account of scarcity of brick. The rock now being taken out is said to be very rich.

IDAHO.

Owyhee *Avalanche*, Nov. 28th: The New York mill has been running for the last five days on Poorman ore. It has been thoroughly trimmed and is in excellent running order. There are hundreds of cords of furnace wood at the yard.

The Minear mill started up on the 13th and is running on Home Ticket ore.

Louis Alpey has discovered another rich ledge near Silver City, which he has named the Silver Fleece.

There are 60 men employed on the Golden Chariot mine.

The Poorman is being fitted up for the winter's run.

NEVADA.

Reese River.

Austin *Reveille*, Nov. 26th: Cottonwood, in Palmetto district, is developing the Kentucky and Silver Champion mines with splendid success. Our correspondent sent us specimens of the ore, of which he writes those mines are producing large quantities. He represents the vein of the Kentucky

to be from nine to ten ft. wide, and the workmen are opening the second level 160 ft. below the surface. The mill of the company has been delayed for want of skillful masons to construct the roasting furnaces, but it is completed and was set in motion on the 10th inst.

Nov. 28th: The El Dorado mine in Silver Bend district is a true fissure vein of the grandest dimensions. It is covered by locations to the extent of a mile, but the only claims that have been developed are that of the Belmont Co. and the El Dorado South. This latter opens in bonanza, which may prove to be 160 ft. wide. In the large working incline which is 175 ft. deep, the vein has been cut through from the foot wall 60 ft. without disclosing the head wall. The narrowest part of the vein in any of the workings is 25 ft. The course of the vein is nearly north and south with its dip to the eastward, and it lies between smooth perfectly defined walls of the hardest slate. The four inclines have been sunk within 500 ft. of the northern boundary, and all of them cut through solid quartz. The vein in the El Dorado South has been traced nearly the entire length of the claim. It is a genuine fissure vein, loaded with noble ore. While the mine of the El Dorado South is full of promise in its hidden depths, it is rich in fruit at the surface. The splendid deposit of chloride ore which occurs along the length of the claim is peculiar, and the mine was worked for a long time before its great value and extent were discovered. Near the surface this ore is of the color of sulphur, but as the excavation descends it becomes darker and almost brown, and it appears to be uniformly rich in silver. We placed the value of the 400 tons of ore which lie upon the surface at $300 per ton. The sum of $75,000 in coin was offered for the lot by an experienced miner and mill owner, but the owners of the ore refused to sell it even at that figure. The El Dorado is a grand silver vein.

Nov. 30th: A correspondent writing from White Pine says: The mill of the White Pine M. & M. Co. erected at this place by Jeremiah Miller, commenced operations about 10 days ago, since which time it has been running with great success, crushing small lots of ore mostly from Chloride Flat. Without knowing exactly what these ores have yielded in every instance it may be stated that they have milled from $250 to $300 per ton, the results being highly satisfactory to the miners. The Oasis mill at Shermantown is running again on the Eberhardt ores, having lately completed a considerable crushing from the Stonewall claim on Chloride Flat. The ores from this claim yielded from $300 to $400 per ton, the Eberhardt averaging about $800. The Treasure Hill mill, being erected about a mile south of this town, is now being pushed rapidly forward towards completion, and it is expected will be running before Christmas. The machinery for another mill to be put up at Shermantown has partly arrived, that for one or two others being on the way. Still additional mills are talked of as likely to be brought into the district during the winter, and it would not be surprising if we had half a dozen or more running here by spring. Mr. Greely, the assayer to the White Pine Mill and Mining Co. to-day cast four silver ingots, weighing 1,236 ozs. each, being the first bars ever produced in Hamilton. They are from amalgam turned out by the company's mill, and are the product of miscellaneous lots of ore.

With the present favorable weather a good deal of work is being done upon the mines. The Eberhardt Co. having completed their ore-house and new hoisting shaft, are again raising ore from their mine. The Keystone is also yielding ores freely, while from various others, such as the Hidden Treasure, the two Auroras, Genesee, Stonewall, etc., considerable quantities are being taken out daily. Great activity prevails on Chloride Flat, two-thirds of those sinking shafts in that locality having found good millable, and in many cases very high grade ore.

Dec. 1st: The Belmont stage, which arrived in this city last evening, brought seven bars of bullion from the mill of the Belmont Co.

During the month of November the Manhattan mill of this city shipped 8,449 lbs. of silver bullion, of the value of $133,367.22.

Eight bars of bullion were brought into this city last night which are the first produced by the White Pine mill at Hamilton.

Dec. 2d: Some 3,000 ozs. of bullion, produced by the old Dominion mill at Hot Creek, were brought into the city last evening.

Wells, Fargo & Co. shipped from their office in this city during the month of November, 212 bars of bullion, weighing 17,285 lbs., and valued at $282,837 74.

Virginia *Enterprise*, Dec. 3d: A correspondent writing from Belmont thus describes the base metal range at White Pine: Opposite, to the west, is the higher summit of White Pine, called the "base metal range," and here the metallic substance is more massive, but contains lead in abundance as well as other metals, with considerable silver. I have no doubt that, some day not far distant, the base metal range will be the prominent feature of White Pine, but, at present, it is only prospected slightly; and yet I have seen assays from its rock which, three years ago, would have created a stir in mining circles.

In short, there is at White Pine abundance of ore from the "pure stuff" which only needs smelting down, through all the grades of silver ore, to that which is so near pure lead that it will not pay in any way that silver ores are worked in America.

Another correspondent writes: About 60 miles south of White Pine, on the White Pine range, nearly due east from Belmont and Hot Creek, new districts have been discovered in slate formations. The matrix is a fine quality of white quartz; the ore is greenish and yellowish in the pay streaks, and the white portion of the quartz is injected, or shot, with spots of metal resembling molybdinite. Several assays show silver from $10 to $1,300 per ton. These new districts will be fine ones, if they prove to be rich and durable, as they are in close proximity to the finest range of building timber now known east of the Sierras, with abundance of water and salt there at hand.

Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Virginia *Enterprise*, Dec. 2d: The hoisting works of the Exchequer Co., formerly the Minerva works, were yesterday destroyed by fire, loss from $20,000 to $25,000.

John Dohle of this city has several men at work in mining out the foundation of the old Farrington arastra mill, between C and D streets, north of Mill. These arastras were worked in early days, and rested upon the earthen floor of the building, into which a great amount of quicksilver and amalgam found its way and was lost to its owners—so much that it is now found profitable to mine out the whole place. Not only are the old arastra beds being dug up, but all the ground which once formed the site of the large shed inclosing them, and even ground adjacent. The dirt dug up about this old establishment is sifted and then worked in pans, after the usual fashion. Although workmen have been engaged in working this curious mine for several weeks, it is by no means worked out—the quicksilver and amalgam having worked down to a considerable depth in the loose soil, and the tailings sluiced out of the arastras having spread about and enriched a large space in the vicinity.

Dec. 3d: The Bullion Co. are now at work 1,240 feet below the surface.

To-day the Belcher mine commences to ship ore to the Sapphire mill. The Supt. estimates that he has at least a ten-months' supply of ore in sight.

Dec. 4th: Promising ore is now being found in a drift east from the 800-foot level of the Imperial. It is thought that a winze 30 to 40 feet deep will strike a body of good pay ore.

The Imperial-Empire shaft is now down 1,082 feet, at which point the rock is quite soft and easily worked.

During November, the yield of the Occidental mine was $39,900, and in December, probably not less than $50,000 will be taken out.

Dec. 5th: The mill of Birdsall & Co., Dayton, was partially supplied with ore from the Occidental mine during the month of November, and returned to the owners of the mine, as the result of the ore reduced, 1,121 pounds of bullion, worth $32,000. The mill is now receiving a full supply of ore, and the yield of bullion is about $1,500 per day. The company expect a return of $45,000, as the result of a full month's run upon their ore by the above named mill. The ore is sent to the mill without assorting, and pays a clear profit of from $6 to $7 per ton over mining and milling expenses. Over 100 tons per day are now being sent from the mine.

There was shipped by express from this city and Gold Hill during the past week, 8,529 pounds of assayed bullion, valued at $216,718.85.

Several claims to the eastward of the Comstock, in the vicinity of the Occidental, are being steadily prospected by their owners with good indications of their ultimately proving paying mines. The leads upon which work is being done are principally silver-bearing.

Dec. 6th: The new blower for this mine arrived yesterday, and will at once be set up and put in operation.

The Imperial yesterday shipped, by Pacific Express, four silver bars, valued at $13,886.74.

Prevention of Danger from Stored Petroleum.—"The dangers to which petroleum exposes houses, vessels, and cities have led several scientific men so turn their attention to the invention of some method by which these perils may be averted. It is no easy matter. Petroleum oil emits at ordinary temperatures such light gas that it infiltrates through the best closed walls. Ignorant of the presence of this highly inflammable gas, no precautions are taken against it, and the least spark—a match or the red ashes of a pipe—may inflame it and produce an explosion. To prevent this danger Mons. Verstreat proposes to clear the holds of vessels and the atmosphere of cellars where petroleum is stored by currents of air. These currents would sweep away all the petroleum gas floating in the hold or cellar, prevent the infiltration of the gas into other portions of the vessel or house, and make the air in the hold or cellar inexplosive. He produces those currents of air by a ventilator moved by hand. It is said the French Government contemplates requiring all vessels laden with petroleum to use some such method while in French ports."—*Exchange.*

Scientific Rascality in Commerce.—It is no longer a secret of the chemists's laboratory that clear, golden syrups can be made from starch and sulphuric acid; that delicious wines and brandies can be made from beet roots; that a barrel of peanuts can be transferred into excellent coffee; that lard can absorb an enormous quantity of water in certain conditions; that in fact there seems no limit to the adulterations that an intelligent and dishonest chemist can practice upon his fellowmen. All these marvels of chemical science have, in these latter days, become degraded into mere tricks of trade, and their beauty is in their capacity to enable unscrupulous dealers to lighten, pocket and destroy the stomachs of the confiding and consuming public. Concerning the article of champagne, a writer in the Portland *Star* tells us that it is made from a thousand different substances—even from refined petroleum. Yes, from the fiery benzoles a sparkling, foaming champagne can be produced, which will delight the eye, tickle the palate, gladden the heart momentarily—but quicken our pace toward the grave. This is a new use for petroleum, which those who have been experimenting with it as an agency for generating steam have little dreamed of. Who can say that the Pennsylvania oil territory, now considered mostly worthless, may not some day be regenerated into the great champagne-producing country of the world. *Cincinnati Journal of Commerce.*

The Silver Ore Deposits of the Interior.—In 1860, when the first silver mining was begun at "Washoe," Prof. W. P. Blake wrote, regarding the eastern slope of the Sierra, and the interior as follows:

The region is one where metamorphism of the rocks has been most intense and complete, and where eruptive porphyries, not unlike those of the Mexican plateau, abound. It is probable that these extensive silver-bearing veins will be found to be coincident in direction with belts of limestone, and near them. A belt of limestone, probably of the age of the carboniferous, is found in connection with quartzites, or metamorphosed sandstones, at the southern end of the Sierra Nevada on the eastern slopes, and the formation is, without doubt, extended northwards through the region of Owen's River and Lake, and the Walker River country to Carson Valley, and beyond. This belt of country, extending over five degrees of latitude, and about 400 miles in length, should be immediately explored. We venture to affirm that it will be found rich in minerals, and in silver-bearing veins.

Another Underground Railway.—New York is to have one. The *Commercial Advertiser* says: "No more plowing through slush and mud; no more fighting for standing room on the platform of street cars; no more getting up for fat old ladies with market baskets, or thin young ladies with camel hump; no more wordy wars with conductors on rainy days over torn stamps; all, all such things are to pass away, and we are to dash through the Stygian bowels of Manhattan Island at the rate of forty miles an hour."

Who ate Roger Williams.—Steele's *Fourteen Weeks in Chemistry* says:

The truth that animal matter passes from the animal back to the vegetable, and from the vegetable to the animal kingdom again, received a curious illustration not long since.

For the purpose of erecting a suitable monument in memory of Roger Williams, the founder of Rhode Island, his private burying ground was searched for the remains of himself and wife. It was found that everything had passed into oblivion. The shape of the coffins could only be traced by a black line of carbonaceous matter. The rusting hinges and nails, and a round wooden knot, alone remained in one grave; while a single lock of braided hair was found in the other. Near the grave stood an apple tree. This had sent down two main roots into the very presence of the confined dead. The larger root, pushing its way to the precise spot occupied by the skull of Roger Williams, had made a turn as if passing around it, and followed the direction of the backbone to the hips. Here it divided into two branches, sending one along each leg to the heels, when both turned upward to the toes. One of these roots formed a slight crook at the knee, which made the whole bear a striking resemblance to the human form. There were the graves, but their occupants had disappeared; the bones even had vanished. There stood the thief—the guilty apple tree—caught in the very act of robbery. The spoliation was complete. The organic matter, the flesh, the bones of Roger Williams had passed into an apple tree. The elements had been absorbed by the roots, transmuted into woody fiber, which could now be burned as fuel, or carved into ornaments, and bloomed into fragrant blossoms, which delighted the eye of the passer-by, and scattered the sweetest perfume of spring; more than that—has been converted into luscious fruit, which, from year to year, had been gathered and eaten. How pertinent, then, is the question, "Who ate Roger Williams?"

Cook's Telegraph.—The *Journal of the Telegraph* says of Cook's improvement of Bonelli's apparatus: "The printing is done in fine bold letters, the words well compacted and spaced, and printed not on a continuous strip, but line under line, as in a printed circular. The great advantage of the autographic process is that it renders error next to impossible. The message is set up and compared before it is transmitted, and if it goes at all, must go exactly as first prepared.

The paragraph before us is one of thirty-five words, transmitted in twenty seconds, a speed equal to 315 messages of twenty words each per hour. We will not be surprised if, in time, parties who prosecute much of their business by telegraph should supply themselves with telegraphic type, arrange their messages for transmission in a case adopted for that purpose, prove them before sending to the telegraph office, and the operator have nothing to do but pass them through the manipulating instrument."

Mexican Mines.—A writer in the London *Mining Journal*, after describing the lawlessness and the unsettled state of things existing in Mexico as obstacles to the development of the rich mines in that country, thus concludes: "The absence of means of communication throughout so large a portion of the Mexican territory, and the wretched condition of the few that do exist, is another great impediment in the way of industrial development in this country, and a more striking exemplification of this with respect to mining operations cannot be offered than by alluding to the fact that it is stated by an English gentleman employed upon the railway, projected between the capital and Vera Cruz, that if the line were completed the deshecho, now thrown aside as worthless, in the important mineral district of Pachuca, might be conveyed, all expenses of land and sea freight included, at the rate of from $25 to $30 per ton to Swansea, where it would be worth from $45 to $47 per ton for smelting."

Large Grain Elevator.—Boston is to have an elevator which will hold 250,000 bushels of grain. It will be erected by the Boston and Albany Railroad Corporation. Everything will be done by steam, and a car load of grain can be brought from Chicago, emptied, and the car returned the same day. The process of emptying will occupy only ten minutes.

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CENTRAL CITY, C. T.—Messrs. Richards & Crane, of the City Book Store, Main street, will act as our agents.
GEORGETOWN, C. T.—John A. Lafferty, Postmaster, is our agent in this place.
DENVER CITY, C. T.—Messrs. Woolworth & Moffat, are our agents for this place.
CHEYENNE, D. T.—Mr. Robert Beers is our authorized agent for this place.
OMAHA, N. T.—Messrs. Barkalow & Brothers, are our agents for this place.
Mr. A. C. KNOX, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

San Francisco:

Saturday Morning, Dec. 12, 1868.

Notices to Correspondents.

THE RATTLESNAKE'S FANG.—A long and exciting argument recently took place at the American Hotel, in Salinas City, in regard to the manner in which the rattlesnake poisons his victim, the formation of fangs, etc. A great diversity of opinions was elicited, and the discussion culminated in numerous bets. By throwing a little light on the subject, as to the formation of the rattlesnake's fangs, the manner in which the virus is injected into the bite, you will much oblige "Salinas." *Answer.*—The rattlesnake's fang is a hollow tooth connected by a duct from its root, with a little vesicle containing the poisonous secretion. When the rattlesnake bites, the vesicle is compressed, and the poison is simultaneously injected into the wound made by the tooth. Showmen and others extract the fangs, and the reptile is then harmless. But Prof. Siebold, the zoölogist, of Munich, says that a close examination of the root of the fang will disclose a concentric structure, from which as many new fangs will grow out as there are old ones extracted. Diagrams of the rattlesnake's fangs may be seen in almost any of the standard works on zoölogy.

MATHEMATICIAN.—Europe owes its first acquaintance with algebra to the Arabians, from whom, by the medium of commerce, it was first introduced into Italy early in the thirteenth century, by Leonard Bonacci, a merchant of Pisa, two of whose manuscripts dated 1202, and 1228, are mentioned by Bossali. Many manuscript writings of a similiar nature appeared shortly afterwards in various parts of Italy; but the first *printed* works on the subject are those of Lucas Pacislus de Burgo Sante Pepulchri, whose principal production is that entitled *Summa Arithmeticæ et Geometricæ, Proportionumque et Proportionalum*, which was published in 1469.

ENQUIRER—Wishes to know the effect of altitude on the proof of spirits, as compared with a low one, when tested by the hydrometer—say the difference between San Francisco and a place 900 feet elevated above the sea. Our reply is, that if due allowance is made for the difference in temperature, the variation in strength, as indicated by the hydrometer, would be imperceptible for all economic purposes, and we might also add for the nicest scientific ones also. If by symbols, chemical ones are meant for describing anhydrous and proof-spirit, to the latter would have to be added + a9 to those employed to denote alcohol.

TEMBLER.—Earthquake study has obtained a distinct scientific definition, which is well recognized by scientific men, the term employed is Seismology, derived from a Greek word *(seismos)*, a movement like the shaking of a sieve. The instruments employed for the observation of this phenomenon are named Seismometers.

CONTINENTAL Life Insurance Company, 302 Montgomery street, corner of Pine.

Metallurgical Treatment of the White Pine Ores---their Ingredients.

During the last few weeks some rich White Pine ore has been brought to this city, the silver having been extracted from different places. A few pounds of the Eberhardt ore were smelted in Kustel's assay office, yielding $5.67 per pound—equal to $11,340 per ton. The bar was only .771 fine, as a great deal of the base metals came out with the silver. At the same office, thirty pounds of White Pine ore were reduced in one of Varney's recently improved pans, after previous roasting. In order to decompose chlorides, and principally to grind the ore fine before amalgamation, (which had to be performed without grinding), the muller was allowed to run for one hour, after which fifteen pounds of quicksilver were introduced. These fifteen pounds turned into amalgam almost instantly, so that the sudden conversion arrested the muller. This being raised and brought in motion again, another charge of ten pounds of quicksilver showed exactly the same result. When finished, thirty-six pounds of pressed amalgam were obtained from thirty pounds of ore.

The almost instantaneous thickening of twenty-five pounds of quicksilver is proof that in this case roasting did not only not interfere with the amalgamating ability of the melted horn silver, but that it seemed even to promote it. The bullion was .796 fine. The ore contained *copper, antimony, lead, arsenic*, and *sulphur*, besides *chloride of silver* as the principal ingredient. Where the most lead is found there is also the largest amount of arsenic, and the reverse. It is therefore very probable that arseniate of lead occurs with the ore; but there is also a light yellow mineral in the shape of a powder, containing *antimony, lead* and *silver*. The silver of this last mineral cannot be extracted by amalgamation, without roasting; and in regard to the sulphur combination, amalgamation is also questionable.

In view of the immensely large proportion of horn silver to the other silver combination, and the quantity of base metals entering the amalgam after roasting, it is by all means preferable to amalgamate the rich White Pine ore without roasting, and to save the tailings for another operation, if they are rich enough.

OLD BLOCK ON THE PACIFIC RAILROAD.—A pamphlet entitled, "The Central Pacific Railroad, or '49 and '69, by Old Block," has fallen into our hands, and afforded us much pleasure,—from associations of the genial author, Mr. Delano, the banker, of Grass Valley. He dedicates it "to his old comrades who crossed the plains in '49, those who suffered weariness and toil, hunger and thirst, in threading their dubious way over the great desert." Old Block is widely known as a true first-class story teller. Between the fall of '49 and the spring of '50, if our memory does not confuse the circumstances with something else that happened about the same time, there was much snow in the high Sierra, and at a jolly tavern away up on the Henness Pass road somewhere, a circle of great story-tellers wintered, and burned large quantities of cord-wood. Educated and prime fellows, whom instinct had led into the path of empire and destiny,—though not in every case afterwards into commensurate wealth and fame,—they created an atmosphere, by the mingling of such ideas and humor as fellows of the kind might be expected to possess, which seems to the Californian of to-day like history and romance of ages past, though only twenty years ago, and within the recollection of all who will participate in the great railroad celebrations of 1869. That atmosphere clings around Old Block to this day, in all that he says and writes. He has told the story of the Pacific Railroad. We hope that he will yet spin out many a yarn of California life and character in the glorious foothills, to which he belongs, and where he has been himself an actor.

Metallurgical Establishments.

TAYLOR'S SMELTING WORKS.

On the east side of Eleventh street, between Howard and Folsom, Messrs. Robert and William Taylor are carrying on an extensive business in different branches, all of them partaking of a metallurgical character, viz.: in galvanizing iron, casting the plates required by electrotypers, making anti-friction alloys and Babbit metal for machine shops, also type and stamping metals, tinners' and plumbers' solder, and in smelting gold, silver, lead, and antimonial ores. The works are quite unpretending, being only of a temporary character. A shed roof at the rear of a wooden dwelling house, covers three or four different kinds of furnaces, and in the open air are wooden troughs to prepare the iron for galvanizing, also an iron trough to contain melted zinc, to galvanize water pipe.

Most important, but least continuously used, in the interior, is a small reverheratory furnace capable of smelting several tons of ore or dross per day. As it costs about $25 a day to keep this in operation, and as large batches of refractory ore are not now frequently sent in, the reverheratory furnace is used only occasionally, and chiefly to reduce the gross or oxidized metals sent here by stereotypers, type founders, tinners, etc. Either English, Sydney or Vancouver Island coal is used. Mount Diablo coal is found to give a large but impure smoky flame without intensity of heat, and is therefore not used, though it has been found to answer at North Beach. For ordinary drosses no flux is made use of. Gold or silver ores in small batches are smelted in graphite crucibles in a wind furnace set in the ground, which we found in operation; the principles made use of being the same as in assaying on a large scale, or in cupola smelting on a small scale. If lead is contained in the regulus, cupelling is effected in a very simple manner; a small cupel is made, being simply a dish of bone ash, to contain the regulus, and it is set into the small reverheratory furnace, where the fire strikes over it from one side, and a blast of air is introduced from another, created by hand with an ordinary blacksmith's bellows.

Easily fusible ores, metals and alloys are treated in a simple iron kettle, set in brickwork. This is constantly in operation, doing the principal work of the establishment. The proper mixture of the white metals is here made for the purposes for which they are required, to order or otherwise. For electrotyping, flat plates of zinc and copper are cast, to hang into the acids, where the electric current is created. For type metal an alloy of lead and antimony is made. Babbit, or anti-friction metal, is cast for the foundrymen in small blocks; it is seldom called Babbit metal now, because a poor quality of that alloy caused it to get a bad reputation in some quarters. For galvanizing (so called, more properly plating) zinc is used, being melted in suitable vessels, where the iron to be coated can be dipped in, after having been made bright by subjecting it to the operation of dilute acid. The object is simply to protect it from rust. Iron water pipes are now generally subjected to this treatment, as well as sheet iron, etc., for special purposes. It is claimed that water pipes so protected will last three times as long as ordinary pipe. Sheets are plated at four cents a pound, and pipes at four cents a foot.

Supplies of crude sulphuret of antimony are derived from a mine owned by the Taylors, and others, located about seventy miles southerly from Gilroy, in the Coast Range; but it is found that the metal can be imported more cheaply at present than the cost of mining and smelting will sum up at.

MOSHEIMER'S METALLURGICAL ESTABLISHMENT AND SCHOOL.

This is a notable curiosity shop, in the metallurgical way. Mr. Mosheimer seems to be well read in all the old and new processes, and there are certainly evidences left at his works,—partially in remnants and heaps,—of his having tried almost everything that science offers, to aid in unlocking the wealth which nature has put into the prospector's hands. The works are located at No. 2005 Powell street, near North Beach, occupying a rear building of considerable size. In variety of metallurgical and mining appliances, they are best described by referring to the table of contents of some metallurgical book. Furnaces and smelting apparatus are in preponderance; but there are also concentrating machines, leaching and chlorinating tanks, a stamp mill, a centrifugal crusher, several peculiarly-constructed amalgamating pans, etc.—articles too numerous to to catch the eye of the visitor in any limited space of time. At one side is the laboratory and assaying room, where matters are tried in a small way, by the wet or dry processes. Underneath the house, adjoining, is the wooden department, where all kinds of wooden machines are made, for experiment as well as for use, and where odds and ends of the same are stored.

Having been engaged in the special field of metallurgy on this coast even earlier than the discovery of silver in Washoe, Mr. Mosheimer is, like his works, an epitome of all that has taken place. He was formerly a partner of Kustel's, for a time. Amalgamation having soon run into a regular and easy channel, he has devoted himself specially to the treatment of refractory ores, and to smelting, and instructing miners cognizant or possessed of "feet" that proved unavailable, or but partially so, by ordinary processes. Furnace building, both for roasting and smelting, has been occupying much of his attention.

A steam engine in one corner of the establishment furnishes the power to run a two-stamp mill, besides the concentrating machines, crusher, fan for blast purposes, etc. For the smelting of ores, Mr. Mosheimer depends mainly on his cupola. It is a small upright, iron-cased, brick-lined furnace, similar to those used in iron foundries, with the blast entering in the same manner. He finds it available for his purposes, in the reduction of copper and iron, as well as of silver and lead ores. At the present time it is engaged on an experimental charge of magnetic iron sand from the ocean beach near the Cliff House. A mixture of clay and lime, the equivalent of marl, is used to close or line the furnace for smelting, being tamped in with an iron wedge.

For roasting, three different kinds of furnaces attracted our attention; firstly, a small muffle furnace, not differing in principle from the muffles described in the books, where the flame does not come in contact with the ore; secondly, Mosheimer's shelf furnace, a large cupola or chimney-shaped structure, having shelves made of clay ware alternating down the sides, combined with a horizontal roasting furnace at the bottom. The ore enters at the top, drops from one shelf to another, meeting a greater heat, and the flame of the fire finally, as it falls; it is worked forward when it reaches the hearth, so as to be subjected last to the greatest heat admissible, in the vicinity of the fire-place. In principle this is excellent—combining the spontaneous combustion of sulphur taken advantage of in the kilns and in Gerstenhæfer's *schutt* furnace, where the roasting does not pretend to be complete, with the ordinary hearth, which finishes the operation in the usual manner. Practically, it is evident that the proportions of the hearth to the hight of the shelving, and the degree of fire to be made relative to the length of the hearth, involve problems to be solved only by experiment, or by the aid of a very intimate experience of the nature and chemistry of the ores in roast-

ing. Thirdly, there is a new Bishoff's reverberatory furnace, for the reduction of magnetic sand (oxide) by a process similar in appearance but the reverse in principle to roasting, with the admixture of coal, into metallic iron in the condition called "iron spongo." Mr. Kidwell holds the patent for this country. The furnace resembles a common hearth roasting furnace, but as the principle is that of reduction, instead of oxidation, the operation has to be performed under effective exclusion of the air—an object very nicely accomplished by putting the laborer's door at the same end of the furnace as the chimney, and directly opposite to the fire-place, whereby the ore is caused to be constantly covered by a sufficient body of the yellow reducing flame.

With something of the make-shift talent which characterizes sailors, Mr. Mosheimer has converted a useless "centrifugal crusher" into a very good blower, to heat up his cupola.

Besides carrying on Plattner's chlorination for gold, when the ores contain also a considerable percentage of silver the Patera process,—extraction with hyposulphate of soda,—is applied as a secondary operation, in order to obtain the silver. This is the plan also pursued by Kustel; though at Swansea, and at Central City, Colorado, the Ziervogel process is said to be used for silver.

A machine for the separation of magnetic iron sand from ordinary beach sand, is worthy of mention, being an invention of Mr. Mosheimer's. A revolving cylinder has a great number of horse-shoe magnets all over its surface, and an endless cloth belt running over the top of them, so as to touch their ends, extends round a second cylinder. By means of a mechanical feeding contrivance, the sand is brought close to the cloth-covered magnets; grains immediately jump up, a distance of one and two inches, and adhere, in bunches, to the cloth, until they are carried beyond the sand reservoir, when the cloth parts company from the magnets, and, as there is no force remaining to hold up the magnetic grains, they are dropped into a box supplied for the purpose of receiving them. In this manner magnetic sand can be separated easily from ordinary sand, by wholesale.

Mr. Mosheimer's metallurgical instruction is confined to practical matters, students generally remaining from a week to two months, at tuition fees ranging from $150 to $250; and receiving a certificate as to what they may have acquired if they desire it. Amongst his students have been the following gentlemen:

Messrs. G. Gray, of San Francisco; Dr. Hunter, of Sacramento; Mr. Neystrom, Chief Engineer, U. S. Navy; Mr. Currie, of London; Michael English, of San Francisco; Dr. Graham, of Columbia, Tuolumne County; Wm. Jones, Supt. Sanlsbnry mine, Tuolumne County; S. Shugard, Mining Superintendent, Amador County; Mr. Kirkpatrick, of the Quicksilver Works at Napa; F. Kasseler, Supt. of Chlorination Works at Coulterville, Mariposa County; Theodore Stahl, Supt. of Mill and Chlorination Works at Placerville; N. Armstrong, of Rocky Bar, Idaho; N. Steiner, of San Francisco; Wm. Parrier, of Idaho; W. L. Davis, of Somersville (Mount Diablo Coal Mines); Mr. Hanscom, Mining Superintendent, Amador County.

Now working in the establishment: Mr. Chas. Cavalline, Idaho; Mr. Garland, Amador County; Charles Heister, White Pine.

THE STANDISH STEAM PLOW has gone on the ranch of Mr. Keliehors, on the Clayton road, near Pacheco, in Contra Costa County. Nine hundred acres lie there which cannot be plowed at all in the ordinary manner. In such soil we are informed that the Standish plow accomplishes fifteen acres a day. A new Standish plow is being built at the Union Foundry for a man named Miller.

The Anglo and Spanish American Pacific Slope Exposition.

Attention is called to the advertisement of David R. Smith, civil and mechanical engineer, in another column, relating to the charge of articles of Californian and Oregonian production and industry, at the Chilian Exposition, to be opened at Valparaiso next April. If there is any significance in geographical situation, touching the history and destiny of nations; if we have manufacturers and merchants in our midst who are more than village tradesmen; if the Pacific Railroad means anything,—we apprehend that not merely Anglo-American blood, but North Western American industry, as developed in the wake of our mining operations, will make its presence felt at Valparaiso. They reduce some kinds of copper and silver ore more economically, and consequently to greater profit in Chili, than we have learnt to do as yet. They have skillful and educated miners and metallurgists. Domeyko's name and fame ought to extend over our similar mining area. They have new amalgamation processes of merit, that we do not hear of, except from limited personal sources. They have undergone, long since, the raw mining and metallurgical experiences in which North American miners and capitalists delight to flounder, and to which 95 per cent. succumb, from want of existing knowledge or experience in that which they are undertaking to do. They are utilizing the chemicals of their alkali plains, and furnishing the world with the principal ingredient to make powder. They have commenced building their railroad over the Andes.

We are furnishing them with wood and whale oil. We may furnish them with heavy iron manufactures, with mining and milling machinery, with woolen products, with shoes, ships, etc.—we will not attempt to make out the list. We have cheap labor at our command,—Chinese,—if we choose to avail ourselves of it. Whether we shall improve our opportunities abroad, or continue to assimilate our energies in internal growth, by reason of greater rewards and greater necessities in that direction, to the neglect of our geographical capabilities, can only prove a matter of time; while it remains true, in industry as in mining, that the first occupants of the field will possess its most valuable advantages.

FORETELLING EARTHQUAKES. — Every country has its earthquake prophets. How many has the luxuriant soil of San Francisco produced, whose fame has extended to Havana? We are a little jealous of the scientific rise of the Antilles, for they have philosophers whose bold words do not fall still-born within the circle of their own greatness. The San Francisco dailies of the 11th, contained the following:

HAVANA, December 8.—Professor Delisser, of Kingston, Jamaica, who, a long time in advance announced the days on which an earthquake would visit St. Thomas, Chili and Peru, announces that there will be an earthquake in California about the 11th of December.

"THE BANNER MINE."—The workmen in the Star Spangled Banner mine, Nevada City, have just sent us a subscription club for the PRESS of ten names, in addition to the copies already taken by the proprietors of that mine. Thus, in more ways than one, are we reminded of the superior intelligence of the operative miners of this country over those of any other portion of the globe. It is needless to say the cash accompanied the above list. The "Banner" is a splendid paying mine.

THE SCIENTIFIC CHURN. — This patent churn, which is highly spoken of is now being introduced on this coast, as will be seen by advertising notice in this paper. We shall endeavor to give our readers an illustrated description of its arrangement and operation soon. Messrs. McConathy & Kincaid, of Pacheco, Contra Costra county, are owners of the patent right on this coast.

SULPHURETS and rich Rebellious Ores are wanted in this city, by ROBT. TAYLOR & CO. See advertisement in another column. 17v17tf

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RETURNED.—Dr J. H. Paine, Dentist, Wadsworth House, No. 225 Bush street, between the Occidental and Cosmopolitan Hotels, San Francisco. 21v17 1m

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Mr. Mowry, lately a clerk in a hotel at Colfax, is requested to call at the office of the MINING AND SCIENTIFIC PRESS, No. 414 Clay street, below Sansome, San Francisco.

CO-OPERATIVE UNION STORE.—This is becoming one of the most useful Institutions in the city, and the Mechanic and Laboring Man fully appreciate it. They are now enabled to buy their Groceries and Provisions 20 per cent. cheaper than ever before, and the very best articles in the market. The store is located at 115 Sutter street, Lick House Block, San Francisco. 23v17-ainn

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SAVE YOUR TEETH.—Drs. Jessup & Beers, over Tucker's Jewelry store, are now making a specialty of filling the fangs of dead Teeth, and building up broken crowns with *pure gold*—thus restoring them to their original usefulness and beauty. They are also using Nitrous Oxide for the painless extraction of Teeth, when so desired—the only absolutely safe anæsthetic ever discovered. In breathing it, it acts as a gentle stimulant, without undue excitement,—the sensation produced being truly delightful, the effect upon the lungs healthful, and in its results positively free from all danger. Prepared and administered daily at the Dental Rooms of Messrs. JESSUP & BEERS, corner Montgomery and Sutter streets, San Francisco. 16v16tf

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WHERE TO ADVERTISE.—The attention of traders and mill machinists is called to the fact that the *Mountain Messenger*, of Downieville, Sierra County, possesses many special advantages as an advertising medium over a majority of the interior press, it being the only public journal published within a radius of sixty miles, in the richest and most populous mining sections of the State. Its weekly edition is double the average of country papers, being without the range of large dailies, and having no competition at home. Its local columns afford many items for our city cotemporaries, while its rates of advertising are reasonably low. 10v17tf

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ELLERY'S PATENT

India Rubber Cement and Paint

—FOR—

TIN, IRON AND METALLIC ROOFS,

Iron, Brick and Wooden Buildings,

SHIPS, STEAMBOATS, TAGES, CARS,

AND FOR ALL EXPOSED SURFACES.

Is water-proof and indestructible; will neither rot, peel, nor crack; will withstand any climate; can be put on in any color, and is less expensive than other Paint.

New Cloth Roofs put on. Old Roofs cemented and painted. Leaky Roofs made tight.

☞ No Coal Tar or Asphaltum used. All work guaranteed. Orders punctually attended to.

GEO. T. BROMLEY, Agent,
Battery street, corner Jackson,
24v17-3m San Francisco.

Scientific Churn.

Warranted to make Butter, from sweet or sour milk or cream, in from

TWO TO FIVE MINUTES.

Having sold the Patent Right of David W. Seeley's "Scientific Churn" for all of the territory west of the Rocky Mountains, except one half of Oregon, and the counties of

Monterey, Santa Cruz, Santa Clara, San Mateo, Alameda, Marin, Sonoma, Solano, Yolo, Sacramento and San Joaquin,

To McCONATHY & KINCAID,

OF PACHECO,

PARTIES WISHING TO PURCHASE

State or County Rights,

Will please apply to them.

J. N. SEELEY.

State or County Rights, or Churns, for sale by

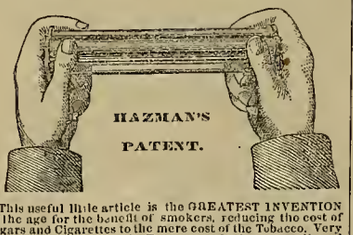
McCONATHY & KINCAID,

PACHECO, CAL.

San Francisco, Dec. 3, 1860. 24v17-1m

CIGAR AND CIGARETTE

Roller and Wrapper.



This useful little article is the GREATEST INVENTION of the age for the benefit of smokers, reducing the cost of Cigars and Cigarettes to the mere cost of the Tobacco. Very convenient to carry in the POCKET, producing no smell, and adapted to the use of any tobacco. In two sizes and three styles—Japanned, Brass, and Silver-plated. Sample machines, with 100 wrappers, sent free of postage on receipt of $1. The highest prize awarded at the Fair of the American Institute, September and October, 1867. For particulars, address H. C. Witt, 57 Cedar street, New York.

Beware of infringements. All genuine have my name printed on the bands.

E. M. DEWEY, Agent for Pacific States, 423 Washington street, San Francisco. 24v17-6in

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GRASS VALLEY, Dec. 2, 1868—*Messrs Dewey & Co.*:—Having received the patent for Symons & Co's Tossing and Refining Concentrator, through your Agency, we return our sincere thanks to you for your unrivalled success. Yours, respectfully, SYMONS & HAREY.

Builders' Insurance Company—OFFICE IN THE BUILDING OF THE CALIFORNIA SAVINGS BANK, California street, one door from Sansome street.

☞ FIRE AND MARINE INSURANCE. 10v1419pqr

PACIFIC

Rolling Mill Company,

SAN FRANCISCO, CAL.

Established for the Manufacture of

RAILROAD AND OTHER IRON

—AND—

Every Variety of Shafting,

Embracing ALL SIZES of

Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames

—ALSO—

HAMMERED IRON

Of every description and size.

☞ Orders addressed to PACIFIC ROLLING MILL COMPANY Post office, San Francisco, Cal., will receive prompt attention.

☞ The highest price paid for Scrap Iron. 9v143m9p

The Chili Exposition.

THE UNDERSIGNED WOULD CALL THE ATTENTION of the manufacturers of California to the National Exposition to be held during the coming spring in Valparaiso, Chili, next to California, is the most important country on the Western Coast of America. And this Exposition cannot fail to create a demand for our staple manufactures, if they are well represented. The writer has resided for some years in Chili, and is familiar with its people, business and language; is a practical mechanic, and proposing to visit the Exposition, offers to take charge of machinery or other material that parties may wish to send thither, and pledges himself faithfully to bring before the public of Chili their respective merits. He can be seen daily, at his office, No. 49 Montgomery Block. Prompt action is necessary.

DAVID R. SMITH,
Civil and Mechanical Engineer.

REFERENCES—Hanscom & Co. (Etna Iron Works); A. S. Hallidie (President Mechanics' Institute); Lynch & Andrade.

San Francisco, November 21st, 1868. 34v17-1f

A Book for Every Miner and Scientific Man.

JUST PUBLISHED,

KUSTEL'S NEW WORK,

CONCENTRATION

Of all kinds of Ores, and the

CHLORINATION PROCESS,

For Gold-Bearing Sulphurets, Arseniurets, and Gold and Silver Ores generally.

Price, - - - - $7.50

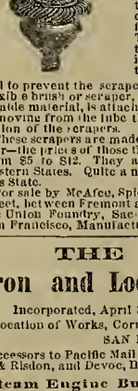
A liberal discount to the Trade. For sale by the Booksellers Sent to any part of the United States, postage paid, on receipt of the price. Address,

DEWEY & CO., Publishers,

Office of the Mining and Scientific Press, 414 Clay street,
16v17tf SAN FRANCISCO.

PATENT

Boiler Scraper and Tube-Cleaner.



IT IS THE CHEAPEST, MOST durable, easiest to adjust, and cleanest apparatus to use for the purpose designed, yet offered to the public. Being constructed on simple and mechanical principles, it is not liable to get out of order, and will continue to perform its office until the materials are worn out. It can readily be adjusted, even by any inexperienced person—will scrape off the scales and cleanse the tubes just as smooth and clean as they were when new, without in the least affecting their inner surface, as the Elliptic Spring Scraper has a smooth square edge, and springs it or can to fit the tubes. It is particularly applicable for steamboat boilers when muddy water is used.

A continuous iron rod runs through the center of the top and bottom hubs. The soft steel scrapers are fastened with screws to the hubs, under the caps, which cover and protect the screws that fasten the scrapers on the hub. The scrapers are expanded or contracted by screwing or unscrewing the lower hub,—first loosening the cap. There is a collar on the rod to prevent the scrapers being jammed. An elastic or flexible brush or scraper, made of leather, rubber, or some pliable material, is attached to the nut for the purpose of removing from the tube the scale and dust loosened by the action of the scrapers.

These scrapers are made from one to six inches in diameter—the prices of those from one to three inches ranging from $5 to $12. They are now extensively used in the Eastern States. Quite a number have already been sold in this State.

For sale by McAfee, Spiers & Co., boiler makers, Howard street, between Fremont and Beale, San Francisco, and at the Union Foundry, Sacramento. E. M. D., P. O. box 17, San Francisco, Manufacturers' Agents. 24v17tf

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THE RISDON

Iron and Locomotive Works.

Incorporated, April 20, 1868. Capital, $1,000,000.

Location of Works, Corner Beale and Howard streets, SAN FRANCISCO.

Successors to Pacific Mail S. S. Co. Works at Benicia, Coffey & Risdon, and Devoe, Winsmore & Co., San Francisco.

Steam Engine Builders, Boiler Makers,

MACHINISTS AND FOUNDRYMEN.

All work in their line attended to with promptness and dispatch.

Directors:

S. F. Butterworth, Lloyd Tevis, Jas. Pollock, Ben. Holladay, Chas. E. McLane, John N. Risdon, Joseph Moore.

JOHN N. RISDON, President.

Joseph Moore, Vice President and Superintendent; Chas. E. McLane, Treasurer; Lewis B. Mead, Secretary; Lewis Coffey, Superintendent Boiler Works. 24v17-6y

Machinists and Foundries.

PALMER, KNOX & CO.,

Golden State Iron Works,

Nos. 19, 21, 23 and 25 First Street,
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF

MACHINERY,

STEAM ENGINES AND QUARTZ MILLS

RUNBAR'S IMPROVED

Self-Adjusting Piston Packing,

Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

WHEELER & RANDALL'S

NEW GRINDER AND AMALGAMATOR

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METALLIFEROUS MINERALS.—The perusal of the Mineral Statistics, just issued, for 1867, leads to some very interesting observations. Pyrites, which were formerly used only for the extraction of the contained sulphur, are now made to yield an important quantity of copper, the Spanish pyrites alone giving 500 tons of fine copper from the quantity of ore treated in the works on the Tyne. Wolfram, again, which was formerly regarded only as a most annoying impurity in tin ore, is returned (to the Stannaries Court) as a useful product by East Pool Mine, which sold 10½ tons, of the value of £62. Barytes, the producers of which were not long since seeking in vain for a market, figures for upwards of 11,000 tons, of the value of nearly £8,000; and that which is the more gratifying is that both sulphate and carbonate have been sold. In the utilization of arsenical ores, and as the price of the article is perhaps the best indication of its appreciation, the figures are subjoined showing the prices given per ton of 21 cwts. for the past four years at East Pool: August, 1864, 10s. per ton; August, 1865, 12s.; August, 1866, 25s.; August, 1867, 53s. 6d.; March, 1868, 60s. 6d.; and August, 1868, 84s. 6d. per ton. It will be noticed since March last the price has increased more than 25 per cent., and during the past four years more than 800 per cent.—*London Mining Journal.*

GEOLOGICAL TABLE.—An elaborate table, showing the British fossiliferous strata and their characteristic fossils, arranged in the order of superposition, or chronological succession, has just been published (through Mr. Stanford, of Charing Cross) by Mr. Wm. Parsons, Sapper R. E. The sheet may be considered as a new edition of that issued some years since by Prof. Morris, the results of recent researches being carefully embodied. It is mentioned, by way of note, that the information has been obtained principally from Sir Charles Lyell's "Elements of Geology," Sir R. Murchison's "Siluria," Prof. Tennant's "Catalogue of British Fossils," Dr. S. P. Woodward's "Recent and Fossil Shells," and other works of equally reliable character. The information given is carefully arranged in six columns, the class, (such as palæozoic, mesozoic) bracketing the system (Silurian, Devonian, and so on), and these again the typical groups of rocks, the average thickness of the strata, and the characteristic fossils; the last column being occupied by series of interesting remarks. The table gives evidence of a large amount of labor having been bestowed upon it, and will, doubtless, prove of considerable value to geological students generally.—*London Mining Journal.*

THE PHILOSOPHER AND THE MECHANIC.—"Modern like ancient society fosters an invidious distinction between those who discourse on principles or natural laws, and those who apply them. The former are philosophers—a superior class; the latter are mechanics—an inferior one! Like other evils of caste this is also in a fair way of being exploded. God is the author of principles and the applier of them. He has made none which are not at work in creation—in truth, creating is the result of their applications. It may be well enough for some to delight more in abstract truths than in their exposition in nature and art; but they should remember that vastly more, and more varied, thought is required for the application of a principle than is expended on its discovery. *They* are endless, and will never cease to elicit new thoughts, while *it* is an act as it were but of a moment. It is the true mission of our species here to apply principles for our purposes as God applies them for his own, and that implies the creation of a world of art conterminous with and in unison with that of nature."—*Cor. American Artisan.*

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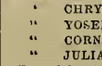
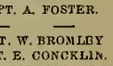
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BETWEEN MONTGOMERY AND KEARNY STS.,
SAN FRANCISCO, CAL.
THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The Beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.
Prices varying from $1 50 to $2 per day for Board and Room,
FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.
☞Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents
21v12 F. E. WEYGANT, Proprietor.

Pacific Powder Mills.
SUPERIOR BLASTING AND SPORTING GUN DEB
Black Diamond, in 1lb canisters.
do do in ½lb canisters.
do do in ¼ kegs.
Hunter's Pride, in 1lb canisters.
do do in ½lb canisters.
do do in ¼ kegs.
do do in ½ kegs.
Pacific Mills River Shooting, in 1lb canisters.
do do do in ½lb canisters.
do do do in ¼ kegs.
do do do in ½ kegs.
do do do in 25lb kegs.
Pacific Mills Rifle, in 1lb canisters.
do do in ½lb canisters.
do do in ¼ kegs.
do do in ½ kegs.
do do in 25lb kegs.
Blasting and Mining Powder $2 25 per keg.
Safety Fuse and Shot for sale by
HAYWARD & COLEMAN Agents.
24v15-3m 414 Front street, San Francisco.

Removal and Partnership.
Notice is hereby given, that I have removed from my old stand on Beale street, and have formed a co-partnership with Mr. A. CAMERON, for the purpose of carrying on the business of Stair-Building, Wood-Turning and Scroll Sawing. The business will be conducted as formerly at Cameron's, corner of Market and Beale streets, and also at Nos 185 and 187 Brannan street, where ample steam power and all necessary facilities have been provided for every branch of the business.
Different sizes of Redwood Balusters constantly on hand for sale. Also Spanish Cedar, Walnut and California Laurel.
1ev17-3m N. P. LANGLAND

Another Kind of Electric Earthquake Theory.

As the following has reference to interesting physical phenomena which the author believes to be similar in cause and operation to earthquakes, we publish it gladly, in the hope that as many more earthquakes theories as may now be launched and proudly floating in brains of a scientific turn, may come speedily to a focus, and like playful fishes, eat each other up:

EDITORS PRESS:—Much has been said already in your esteemed PRESS about earthquakes, their causes, etc. If you will permit the thoughts of one of your subscribers a space in your paper, I would respectfully call your attention to a correspondence in the San Francisco *Abend Post*, (German), somewhere near or between the 30th of November and the 8th of December, 1865, in which I gave a proper classification to all earthquakes and their causes. To prove that earthquakes are certainly created by electric power, I would advise some of your scientific gentlemen to try to decompose water by electricity. A proper instrument for the purpose would be the *voltameter*. Each of the gases, hydrogen and oxygen, will pass to their respective pole (positive or negative), and will create a certain rise in the water. By this action I intend to show that our tidal waves, the rise of rivers and lakes, are the production of electric currents passing through the water. Should my idea prove to be the correct one, then it must be understood by the honorable Committee on Earthquakes that no practical plan for buildings can be adopted, unless it is based on some theoretical foundation. For my opinion, I would say that there are no remedies for *internal* and *local* earthquakes, but some plan may be provided to check the power of those I classify as externals, and which are the most frequent and destructive ones. They will occur in countries where thunderstorms are in part or entirely absent. Sometimes this class of earthquakes will not reach their maturity, and will generate over into whirlwinds and storms. External earthquakes are the fountain of all others; their electric power is, through the agency of powerful conductors, carried into the inner part of our earth, lakes, rivers, etc. They are also the creators of volcanoes, which will, from time to time, be ignited by action of external earthquakes; hence their periods of action. It is further my opinion, that we are not influenced by the moon or other bodies, and that no degree or line as to the extension of earthquakes can be drawn. So much for the present, from yours truly, CARL F. BACHMANN.

San Francisco, Dec. 9th, 1868.

Snowy District, Santa Barbara County.

EDITORS PRESS: Snowy District was discovered in December, 1865, by Mr. John B. Treadwell and party, and it is situated in the northeastern part of Santa Barbara County. All supplies are brought from Los Angeles, which is 130 miles distant by wagon road. The principal mines here are the Snowy Valley, Pinch-Out, Lead-Ore Juniper, and are owned by Mr. Treadwell and party.

The Snowy Quartz Mine promises to become one of the richest mines in this part of the State; it stands at an angle from 20° to 30°, and is from two to eight feet wide in talcose slate, and has reddish clay seams between the walls and ledge, cropping out for several hundred feet on the surface. I prospected all along the croppings, and never failed to obtain a few colors of gold. There is a tunnel run in on to this ledge 60 feet, and it shows a good mine all the way; the quartz is soft and can be worked without blasting. It is not a pocket ledge, for the gold is found in every place, and will average $40 to $60 per ton.

The Lead-Ore, Pinch-Out, Valley and Juniper ledges are equally as rich as the Snowy mine, but not equal to it in size. The facilities for wood and water are unlimited. Mr. Treadwell is putting up a prospecting mill, to run by water, which he intends to have running soon. A. T. STONE.

Nov. 8th, 1868.

THE MINING AND SCIENTIFIC PRESS comes to us this week in a new dress throughout, much improving its appearance. The PRESS is one of our most valuable exchanges, and fills a place in mining and scientific matters never attained by any other journal.—*Colorado Miner*

To Inventors on the Pacific Coast.

Messrs. DEWEY & CO.

Take occasion to call your attention to the following rules, regulations and suggestions relative to the obtaining of LETTERS PATENT of the United States:

Steps Necessary to Procure a Patent.

The FIRST thing required is a model, if your invention can be represented by one. It is not only immediately necessary in preparing the papers, but the law demands that the inventor shall, in all cases, furnish a model, which must not exceed twelve inches in any of its dimensions. A model of less size will answer when more convenient. It should be neatly made, and of hard wood or metal, or both, varnished or painted; the name of the inventor should be engraved or painted on it in a permanent manner.

When the invention consists of an improvement on some known machine, a full working model of the whole will not be necessary. It should be sufficiently perfect, however, to show, with clearness, the nature and operation of the invention.

As soon as the model is ready, it should be carefully boxed and shipped by express, or otherwise, to our address, namely: DEWEY & CO., *Mining and Scientific Press, San Francisco.* Prepay expenses and send express receipt to us by mail.

A full description must also be sent with the model, embodying all the ideas of the inventor respecting the improvement.

Simultaneously with the model, the inventor should send us the first instalment of the Government fee, fifteen dollars. The money may be forwarded either by express with the model, or by mail. The safest way to remit is by draft on San Francisco, payable to our order. Always send a letter with the model, and also the remittance, stating the name and address of the sender. On receipt of the model and Government first fee of $15 in currency, the case is duly registered on our books, and the application proceeded with as fast as possible. When the documents are ready we send them to the inventor by mail, for his examination, signature and affidavit, with a letter of instruction, etc. Our fee for preparing the case is then due and will be called for. The case will then be presented to the Patent Office, and as soon as the patent is ordered to be issued the Government last fee of $20 in currency will be required. The law states that every patent shall be dated as of a day not later than six months after the time at which it was passed and allowed, and notice thereof sent to the applicant or his agent. And if the final fee for such patent be not paid within the said six months, the patent shall be withheld, and the invention therein described shall become public property as against the applicant therefor.

Inventors who do business with us will be notified of the state of their application in the Patent Office, when it is possible for us to do so. We do not require the personal attendance of the inventor, unless it is one of great complication, as the business can be well done by correspondence.

When the invention consists of a new article of manufacture, a medicine, or a new composition, samples of the separate ingredients, sufficient to make the experiment, and also of the manufactured article itself must be furnished, with full description of the entire preparation.

The average time required to procure a patent, when the case is conducted at our agency, is ten weeks. We frequently get them through in less time; but in other cases, owing to delay on the part of Government officials, the period is sometimes extended to four or five months, and even more. We make a special point to advance our cases as rapidly as possible.

Advantages to Patrons of Our Agency.

Some of the advantages to be obtained by patronizing us may be enumerated as follows:

1. Inventors on this coast having their applications for patents made out through our agency, can sign their papers at once, and thus secure their rights at least *three months sooner* than by trusting the same to distant agencies, situated at New York or Washington.

2. As many of the inventions conceived here are especially adapted to the Pacific coast, they should be properly brought out here, which can be accomplished (if the invention is a meritorious one) by illustrating the subject, with a careful description, in the columns of the MINING AND SCIENTIFIC PRESS, *free of charge;* the inventor paying simply for the engraving, which will be executed at a moderate charge. The same cuts can be subsequently used for books, letters or circulars. In a word, we are determined to make it of decided interest for every inventor on this coast to patronize home talent and enterprise.

3. Most inventions on this coast are for objects and purposes but little understood by parties at Washington or other parts of the East. Our mining machinery, processes and operations are best understood by those familiar with their use; and a personal verbal explanation is oftentimes of important service, and enables us to be more successful than agents generally.

4. Remittances of money made by individual inventors to the Government sometimes miscarry, and it has frequently happened that applicants have not only lost their money, but their inventions also, from this cause and consequent delay. We hold ourselves responsible for all fees entrusted to our agency. By sending duplicate correspondence to our Washington agent we avoid hazardous delays.

Self-Evident Facts.

Having had large experience, and gratifying success with the great variety of cases emanating on this coast, we feel confident of our abilities to assist inventors in patenting their inventions, saving them from vexatious delays, and from receiving worthless papers by reason of imperfect preparation of their claims before being sent to the Patent Office.

The branch of Patent Law is of itself a SPECIALITY of legal jurisprudence; or, as Mr. Phillips, an eminent patent lawyer, justly remarked: "The metaphysics of the law."

In early days but little preparation was needed, or but ordinary skill required to obtain a patent; but now, by reason of the multiplicity of inventions, and the numerous Acts of Congress, found necessary to protect the inventor while the patent lasts, and to do justice to the people after it expires, the utmost care and skill are requisite in managing cases and obtaining a patent that will be of real value to the Patentee, and stand the test of passing through the legal ordeal of an infringement suit.

The general practice of the Patent Office regarding the examination or issue of Letters Patent for inventions has not been materially changed for many years, yet there have been amendments added to the laws of 1861, 1863, and 1866, and which it is necessary for all parties managing an application to be conversant with. Old inventors invariably advise the employment of none but agents of *responsibility* and *experience*. As agents with such qualifications, we solicit honest patronage.

Candid Reasoning.

A gentleman eminent for his ability in all points pertaining to specifications, gives inventors the following sound advice:

To properly prepare a specification may seem a very simple and easy task, but such is not the case. It requires a knowledge of the arts, of science and scientific terms, and their proper use—of mechanics and the principles that govern their action—of law, and of the grammatical and legal force and construction of language, which is possessed by but very few persons.

Lawyers seldom possess the mechanical knowledge, while mechanics still more generally lack the legal knowledge necessary to enable them to properly prepare a case for examination.

It requires such a *combination* of legal and mechanical knowledge, together with a special knowledge of the principles and rules that govern the action of the office, that no person is really competent to undertake the business but those who *have made it a study, or had experience at it.* In view of these facts I unhesitatingly advise every person who has an invention worth patenting to get some responsible and competent agent to attend to it for him.

No person scarcely would think of entering upon a suit at law without employing a lawyer to attend to it, and make out his papers for him; and if a sensible man would not do that, much less would he attempt to prepare an application for a patent without knowing anything about the business.

I am aware that persons frequently attempt it, but I am also aware that *many lose their patent simply in consequence of not having their case properly prepared, or not knowing how to amend it so as to avoid the references given when once rejected.*

Besides this, many times when they succeed in obtaining the patent, they find afterwards that it will not stand in law, or does not cover their invention, and is therefore useless. It is for this reason that many applicants are compelled to reissue their patents at as great, and often greater expense, than the obtaining of the original.

Hence I repeat, every person having an invention worth patenting should employ a competent and responsible agent—I say *competent and responsible*, for, unfortunately, there are many who are neither competent nor responsible.

Caveats.

A caveat is a description of the invention designed to be patented, lodged in the Patent Office before the patent is applied for, and while the inventor is perfecting his design. When *properly* made, it operates as a bar to applications respecting the same invention from any other quarter; but when improperly done, it is inoperative by reason of such defect. The Patent Office always returns a receipt for caveat papers with a copy of the laws governing the same, but does not seek to point out its incorrectness, unless there be some glaring defect.

If worth filing at all, these cases should be prepared with very great care and caution.

One intentor on this Coast, who had filed a caveat by an attorney, was, sometime afterward, surprised to find that his invention, which was a very important one, had been patented and was being brought out by an eastern company with a capital of more than a million of dollars. Upon inquiring at the Patent Office, he was informed that his caveat was inoperative by reason of imperfections and his not having complied with the law in that case as made and provided.

Our fee for a caveat varies from $10 to $15. The Government fee is $10.

Inventors will oftimes find it very important to take advantage of the caveat system—the expense under the law being comparatively small.

To enable us to prepare caveat papers, we only require a sketch and description of the invention; no model being necessary.

If an inventor publicly uses and sells his invention, prior to making application for a patent, he cannot, afterward, prevent others from doing the same thing; and should any party put the invention into use, before such application for a patent is made, they could continue to use the specific machine or composition of matter after the patent is issued to another. Filing a caveat does not give the right to affix the words, "Patented, or "Patent applied for."

Saving of Time.

In urgent cases for an immediate patent, persons can deposit the amount of the last fees with us, in San Francisco, and have our Washington agent procure the *issue* of the papers as soon as granted, saving the two or three months time which would otherwise be required for the inventor to receive notice and then forward the money. Money advances for this purpose will be returned, should the application be rejected. By adopting this course, we are enabled, with our other advantages, to secure the *receipt* of patent papers to inventors on this Coast, at least four or five months sooner than can be done through agents in the East, without the applicant going to the hazardous expense of sending on the last fee before it is known whether the patent will be granted.

What Claims can be Patented?

A knowledge of Ancient and Modern Mechanics and familiarity with American and Foreign patent issues and rejections, enables us to determine in a measure in all cases what can be patented, and how much can be claimed as new and novel, and be covered by Letters Patent. This is one of the most difficult questions encountered by both old and new inventors—one in which an experienced counsel is of great service—and yet it can never be positively determined except by presenting a formal application for a patent to the Government, embracing a petition, specification, model, duplicate drawings and payment of the first government fees.

Patent Rejections.

FIRST. Refusals are always made by the Patent Office if there is any informality in the specification, or if it does not contain the entire subject matter of the invention, and is not properly arranged and stamped. A slight omission often proves fatal.

SECOND. If the drawings are defective, and are not executed in an artistic manner in India ink, and on sheets of the required size, they are subject to rejection.

THIRD. Applications are always rejected where the claims conflict with others already patented.

If the rejection should be an unjust one—which sometimes happens—it can generally be reversed, and the patent obtained by contesting the case.

For the prosecution of such cases, obtaining references, making arguments, and personally attending to explain the case (through our agent in Washington), *we charge no second fee*, as is the case with some agencies, but attend to the business till finally allowed or twice rejected, without extra charge beyond the Government fee.

Inventors who have rejected cases, prepared either by themselves, or for them by other agents, and desire to ascertain their prospects of success by further efforts, are invited to avail themselves of our unsurpassed facilities in securing favorable results. We have been successful in securing Letters Patent in many such cases. Our terms are very moderate.

Dangers of Delay.

Situated so remote from the seat of Government, delays are even more dangerous to the inventors of the Pacific coast than to applicants in the Eastern States. Valuable patents may be lost by the extra time consumed in transmitting specifications from Eastern agencies back to this coast for the signature of the inventor, or by reason of return for amendment when addressed directly by the inventor to the Government.

Expense of Applying for Patent.

The Government fee, on filing an application for a patent in the United States, is fifteen dollars; and if the patent is allowed, twenty dollars additional is required. If rejected, the first fee of fifteen dollars is all that is demanded.

To the foregoing official fees must be added fees for preparing the various documents and expense of drawings. Our charge for preparing a case, presenting it to the Government, and attending to all business connected with it, varies from $20 to $40.

Following is the list of Government fees, payable in currency:

On every caveat	$10
On every application for a patent, for seventeen years	10
On every application for a design, for 3½ yrs and 7 mos	15
On every application for a design, for seven years	5
On every application for a design, for fourteen years	30
On issuing each original patent	20
On filing a disclaimer	10
On every application for a re-issue	30
On every additional patent granted on a re-issue	30
On every application for an extension	50
On the grant of every extension	50
On appeal to the Examiners-in-Chief	10
On appeal to the Commissioner from Examiners-in-chief	20
On every appeal to the Judges of Circuit Court, D. C.	25

Illustrate your Inventions.

Too many ingenious inventors lose the value of their genius and labor by not bringing their improvements conspicuously or plainly enough before the public—the general reading public.

One of the best means—and the cheapest, too—for eliciting attention to a new invention, is that of illustrating and describing it in the columns of the MINING AND SCIENTIFIC PRESS. To do this in the case of a meritorious improvement (and none other will be accepted), will cost our patrons no more than the price of a first-class engraving.

With a cheap representation we will have nothing to do, as it would be calculated to injure both the inventor and ourselves.

We also take especial pains in furnishing engravings and electrotypes of superior merit, of all kinds, at fair rates, and tender our patrons the benefit of our practice and experience, by advice and assistance, in getting up their circulars, advertisements, etc.

DEWEY & CO.,

Patent Solicitors, Mining and Scientific Press Office,
414 Clay Street, below Sansome, San Francisco.

SEPTEMBER, 1868.

THE CELEBRATED

IMITATION GOLD

$15. Hunting Watches. $20

CASES OF THE
COLLINS METAL
(IMPROVED OROIDE)

Special Notice.—Our superior Oroide Watches having recently been imitated, and worthless watches sold in New York, Boston, Chicago, and other cities, represented as our watches, we hereby caution the public against them, and give notice that we are in no way responsible for these bogus concerns, and only those purchasing directly from us can secure a genuine Watch of our manufacture. We have recently greatly improved our Oroide in appearance and durability, and, to protect the public from imposition hereafter, have named it the "COLLINS METAL," and we give notice that any one making use of this name will be prosecuted to the extent of the law.

This metal has all the brilliancy and durability of gold; cannot be distinguished from it by the best judges; retains its color till worn out, and is equal to gold excepting in intrinsic value. All our Gentlemen's Watches are *Full Jeweled Patent Levers;* those for Ladies an improved Escapement, better than a lever for a small Watch; all in Hunting Cases, and fully guaranteed by special certificate. The $15 Watches are equal in neatness, style of finish, general appearance, and for time, to a gold one costing $150. Those for $20 are of *extra* fine finish, and are fully equal to a Gold Watch costing $200. Chains of every style, from $2 to $6. Also, Jewelry of the Collins Metal in every style.

To Clubs, where six Watches are ordered at one time, we send ONE EXTRA free of charge. All our prices are in Currency.

Goods sent to any part of the United States by express, to be paid for on delivery. Money need not be sent with the order, as bills can be paid when goods are taken from the express office. Customers must pay all express charges. We employ no agents; orders must therefore be sent directly to us. Customers in the city will remember that our *only Office* is

Nos. 37 and 39 Nassau street, New York,

Opposite the Post Office, (up stairs.)

C. E. COLLINS & CO.

Citizens of Toronto and the Dominion generally, take notice. We have hundreds of testimonials. But you need no further evidence than the following from one who is well known among you. Here is his proof positive.

Harry Hazleton, the well known author, says:

"I have always looked upon cheap watches as humbugs, and dealers in them as little better than swindlers. At the request of a friend, I have worn for three months, the watch he purchased of C. E. Collins, and for which he paid $15. It accurate time, retains its perfect golden appearance, and I can really see no difference between it and my own, which cost five times the amount of the Collins Watch."

Mr. Hazelton adds:

"I have since purchased FIVE of these watches, at the request of friends, and those for whom they were intended are perfectly satisfied. Others are seeking for them, and I fancy that Mr. C. will find some difficulty in supplying the constantly increasing demand."

☞The regular price of the watch is $15, and others costing $20. These are superbly finished, and really superior to any article placed upon the market, costing five times that sum.

Office State Capital Reporter, 42 and 44 J street, Sacramento, Cal., July 15, 1868:

C. E. COLLINS & Co.—Gentlemen:—Wells, Fargo & Co. delivered Watch and Chain, as per order, paid but on presentation. The Watch and Chain give entire satisfaction, and several of my friends wish the same quality of watch and chain. One is chief editor of this paper, and two others are the publishers of this paper, and the others are for friends of mine, and by wearing your goods will make you a large sale in this city. I therefore wish you to send me seven watches and seven chains, of same quality as those you sent me, price paid you $15 for watch, and $6 currency for chain. I return you the guarantee, it may assist you in ascertaining the exact kind of goods sent me, the number of the watch sent is 66,982. If this order sent turns out as satisfactory as the first, we will give you a good editorial notice, and help you along as far as practicable. I send this order not for my benefit, but for yours and to accommodate my friends. Send to E. K. Phipps, office of "State Capital Reporter, Sacramento, California."

Yours, respectfully,

E. K. PHIPPS.

Address,

C. E. COLLINS & CO.,

37 and 39 Nassau street, New York.

29v17eow3m

Trades and Manufactures.

WM. BARTLING. HENRY KIMBALL.

BARTLING & KIMBALL,

BOOKBINDERS,

Paper Rulers and Blank Book Manufacturers,

505 Clay street, (southwest cor. Sansome),

15v12-3m SAN FRANCISCO.

JOHN DANIEL,

(SUCCESSOR TO O. GOBI)

MARBLE WORKS,

No. 421 Pine st. bet. Montgomery and Kearny, San Francisco

Mantels, Monuments, Tombs, Plumbers' Slabs Etc., On hand and Manufactured to order.

☞ Goods shipped to all parts of the State. Orders respectfully solicited. 5v8-3m

Palmer's Patent

ARTIFICIAL LEG.

Manufactured in Philadelphia, Penn.

JARVIS JEWETT, AGENT.

218 Montgomery Street, San Francisco. 10v8-1m

J. M. STOCKMAN,

Manufacturer of

PATTERNS AND MODELS,

(Over W. T. Garratt's Brass Foundry,

S. E. Corner of Mission and Fremont sts.,

6v14tf SAN FRANCISCO

J. F. PAGES,

SEAL ENGRAVER,

AND LETTER CUTTER,

Brass and Steel Stamps and Dies, 522 Montgomery street, San Francisco. Orders by express promptly attended to.

6v16

DESKS AND OFFICE FURNITURE.

JOHNSON & BEST,

Manufacturers of all kinds of

Desks and Office Furniture,

717 Market street, near Third.

Warerooms up stairs. A large variety of Desks always on hand; all kinds of Office Furniture and Cabinet Work made to order.

18v17qr

LOOK TO YOUR ROOFS!

Pacific Concrete Company,

No. 622 Clay street,

Factory on Kings-treet, between Third and Fourth street.

New roofs covered and leaky roofs repaired, in thorough and substantial manner, promptly and at very reasonable rates. Proprietors of Eagan's Patent. 18v17tf

Pacific Chemical Works.

SULPHURIC ETHER.
SPIRITS OF NITRE,
AQUA AMMONIA,
ACETIC ACID,
CYANIDE OF POTASSIUM
—AND—
ACIDS AND CHEMICALS OF ALL KINDS.

FALKENAU & HANKS,

Office, 619 Montgomery Street.

LOUIS FALKENAU, State Assayer.

☞Particular attention paid to the Analysis of ORES, MINERALS, METALS, etc. 8v17

BROOM HANDLES.

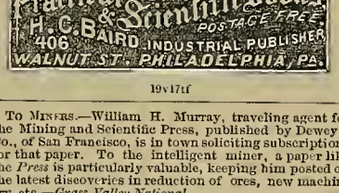
FOR SALE,

A Machine for turning Broom Handles.

Will be sold low, as we have no further use for it. Apply at the Wooden Ware Factory of

ELAM & HOWES,

23v17-1m16pnr Corner of Main and Mission streets.



19v17tf

TO MINERS.—William H. Murray, traveling agent for the Mining and Scientific Press, published by Dewey & Co., of San Francisco, is in town soliciting subscriptions for that paper. To the intelligent miner, a paper like the *Press* is particularly valuable, keeping him posted on the latest discoveries in reduction of ores, new machinery, etc.—*Grass Valley National.*

New Mining Advertisements.

Patrocina and Dolores Silver Mining Company, Guazapares District, State of Chihuahua, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the ninth day of December, 1868, an assessment of two dollars ($2) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, C. B. Gifford, N. E. corner of Second and Howard streets, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eighth (8th) day of January, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fifth day of January, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

C. B. GIFFORD, Secretary.

Office, N. E. corner of Second and Howard streets, San Francisco. dec12

Mining Notices--Continued.

Atlanto Gold and Silver Mining Company.—Location of the Mine, Lyon County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fifth day of November, 1868, an assessment of twenty five cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No 319 California street, (Room No. 5 Hayward's Building) San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirty-first day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the thirtieth day of January, 1869, to pay the delinquent assessment, together with cost of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. POPE, Secretary.

Office, No. 319 California street, (Room No. 5) San Francisco. no28

☞Gold Hill News copy and send bill to this office.

Colorado Silver and Copper Mining Company, Arizona Territory.

Notice.—The Annual Meeting of Stockholders of the Colorado Silver and Copper Mining Company, of Arizona Territory, will be held at the Company's office, No. 713 Montgomery street, Room No. 40 (3d story), on MONDAY, DECEMBER TWENTY-EIGHTH, 1868, at 3 o'clock, P. M., for the election of Trustees and the transaction of such other business as may properly come before it.

nov14 B. W. MUDGE, Secretary.

Diamond Copper Mining Company. Location: Rockland District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-eighth day of October, 1868, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No 40 Merchants' Exchange Building, California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the tenth (10th) day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty eighth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. A. COOLIDGE, Secretary.

Office, Room No. 40 Merchants' Exchange Building, California street, San Francisco. oc31

POSTPONEMENT.—The day for deeming stock delinquent on the above assessment is hereby postponed until the thirty-first day of December, 1868, and the sale thereof until Thursday, the twenty first day of January, 1869. By order of the Board of Trustees.

dec12 J. A. COOLIDGE, Secretary.

Great Central Mining Company.—Location of Works: Yuma County, Arizona Territory.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the ninth day of October, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
P Calnon	196	10	$25 00
Wm H Cleveland	313	25	62 50
Mrs Ann G Cummings	255	25	62 50
Jas H Foster	94	100	250 00
Jas H Foster	141	10	25 00
Jas H Foster	142	20	50 00
Jesse Geib	73	25	62 50
Jesse Geib	74	25	62 50
Jesse Geib	75	20	50 00
Jesse Geib	76	10	25 00
Jesse Geib	78	10	25 00
Jesse Geib	79	5	12 50
Jesse Geib	80	5	12 50
S R Harris	293	50	125 00
S R Harris	299	50	125 00
S R Harris	318	50	125 00
Jas Kellogg	175	50	125 00
A J Jeghers	3	5	12 50
A J Jeghers	4	5	12 50
A J Jeghers	5	5	12 50
A J Jeghers	6	5	12 50
A J Jeghers	7	5	12 50
August Ludorf	244	10	25 00
Hiram McLeod	220	90	225 00
Jno R Mason	128	10	25 00
Camillo Martin	267	20	50 00
Ford R Rogers	329	65	162 50
Louis Vesaria	319	25	62 50
Louis Vesaria	320	25	62 50

And in accordance with law, and an order of the Board of Trustees, made on the ninth day of October, A. D. 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at their salesrooms, No. 426 Montgomery street, San Francisco, on the thirtieth day of December, A. D. 1868, at the hour of 4 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

O. D. SQUIRE, Secretary.

Office, No. 414 Montgomery street, San Francisco. dec5

Hope Gravel Mining Company. Location of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of November, 1868, an assessment (No 27) of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 28 Merchants' Exchange, California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on Tuesday, the twenty-second day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eleventh day of January 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary.

Office, No. 28 Merchants' Exchange, south side of California street, between Montgomery and Sansome streets, San Francisco, California. no21

Nevada County Gold Mining Company, Nevada County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the fifth day of October, A. D. 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Wm B Peake	425 to 450 inc.	26	$26 00
Wm B Peake	261 to 299 inc.	39	39 00
Wm B Peake	300 to 315 inc.		
	341 to 350 inc.	26	26 00
Unknown	141 to 215 inc.	107	107 00
Unknown	257 to 260 inc.	4	4 00
Unknown	356 to 408 inc.	53	53 00
Unknown	471 to 500 inc.	30	30 00
Unknown	91, 93, 420, 462	4	4 00

And in accordance with law, and an order of the Board of Trustees, made on the fifth day of October, A. D. 1868, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the Company, No. 9 Merchants' Exchange, San Francisco, Cal., on Saturday, the twenty-sixth day of December, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

W. AUG. KNAPP, Secretary.

Office, No. 9 Merchants' Exchange, California street, San Francisco. no28

Rattlesnake Gold and Silver Mining Company, Brown's Valley, Yuba County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the thirteenth day of October, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Bradley M	old issue	50	$50 00
Bradley, A B	old issue	5	10 00
Ely, I	old issue	10	20 00
Findley, Thos	new issue	49	98 00
Gray, P M	old issue	30	60 00
Gray, C M	old issue	30	60 00
Gerde, F	new issue	25	50 00
Knight, D E	old issue	54	108 00
Lawson, J F	old issue	49	98 00
Lamory, E	new issue	11	100 00
Ruggles, D W	old issue	10	20 00
Van Muller, E		150	300 00
Van Muller, E		100	200 00
Van Muller, E		50	100 00
Van Muller, E		25	50 00
Van Muller, E		20	40 00
Vitte, I		5	10 00

And in accordance with law, and an order of the Board of Trustees, made on the thirteenth day of October, 1868, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the salerooms of J. Middleton & Son, 310 Montgomery street, San Francisco, on Monday, the seventh day of December, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN F. LOUISE, Secretary.

Office, 318 California street, San Francisco, Cal. no21

POSTPONEMENT.—The above sale is hereby postponed until Monday, the fourteenth day of December, 1868, at the same hour and place. By order of the Board of Trustees.

dec12 JOHN F. LOUISE, Secretary.

Rippon Gold and Silver Mining Company.—Location of Works: Silver Mountain District, Alpine County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifteenth day of October, 1868, an assessment of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 57 Stevenson street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the nineteenth day of November, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the eighth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

P. CABBOLL, Secretary.

Office, No. 57 Stevenson street, between First and Second streets, San Francisco. oc24

POSTPONEMENT.—The day for deeming stock delinquent on the above assessment is hereby postponed until Saturday, the twenty eighth day of November, 1868, and the sale thereof until Thursday, the seventeenth day of December, 1868. By order of the Board of Trustees.

no21 P. CARROLL, Secretary.

POSTPONEMENT.—The day for deeming stock delinquent on the above assessment is hereby postponed until Friday, the 18th day of December, 1868, and the sale thereof until Saturday, the 9th day of January, 1869. By order of the Board of Trustees.

dec12 P. CABROLL, Secretary.

Senator Silver Mining Company.—Location of Mine: Virginia City, Storey County, State of Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the second day of November, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificates.	No. Shares.	Amount.
Blake, Wm	63, 64	45	$22 50
Bell, Joseph	7	15	7 50
Barry, Roht	39	30	15 00
Carroll, J C	16, 17, 18	150	75 00
Corbett, John	35	60	30 00
Corcoran Wm	not issued	320	160 00
Downey, J P	58	5	2 50
Dillon, P W	32, 33, 34	150	75 00
Edwards, A L	4	30	15 00
Freeman, B H	44	23	11 50
Farrell, William	not issued	30	15 00
Greene, Jessie E	t, 2	30	15 00
Herlehy, Michael	26	30	15 00
Hamill, John	66, 67	30	15 00
Hernan, Frank	60	30	15 00
Malony, Martin	10	15	7 50
McMahon, Miss M	29	15	7 50
Macdonald W W	43	22	11 00
McMahon, J M	not issued	15	7 50
Neenan, Andrew	12	15	7 50
Neagle, Wm	bal 56, 61	1393	696 50
Ockel, Chas	11	30	15 00
O'Donnell, Daniel	30	15	7 50
O'Neil, Marguerite	46	31	15 00
Pendergrass, Wm	9	15	7 50
Perry, B F	57	5	2 50
Quigg, Chas	27	15	7 50
Schoeneman, Henry	5	15	7 50
Shiel, Michael	not issued	30	15 00
Wool, Bartholomew	36	30	15 00

And in accordance with law, and an order of the Board of Trustees, made on the second day of November, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, Cal., on the twenty-fourth day of December, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.

Office, 408 California street, San Francisco. dec5

San Francisco and Castle Dome Mining Company. Location of Works: Castle Dome County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fifth day of November, 1868, an assessment of three cents per share was levied upon the capital stock of said Company, payable immediately, at the office of the Treasurer, A. I. Cladding, No. 420 Montgomery street, San Francisco, in United States gold and silver coin.

Any stock upon which said assessment shall remain unpaid on the twenty-eighth day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twelfth day of January, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

A. R SMITH, Secretary.

Office, No. 428 California street, 3d floor, San Francisco. no28

U. S. Grant Mining Company.—Location of Works: Carlisle, Nevada County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the ninth day of November, 1868, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 226 Clay street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the fifteenth day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the second day of January, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

ENOS TAYLOR, Secretary.

Office, No. 226 Clay street, San Francisco. nov14

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VARNEY'S
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These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

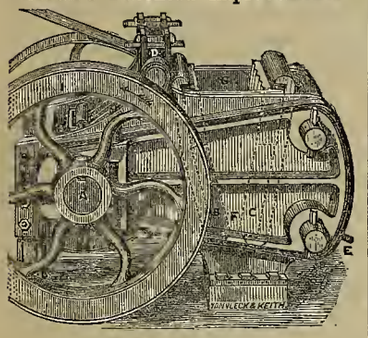
The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

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No. 1—Of 9-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price.....**$600**

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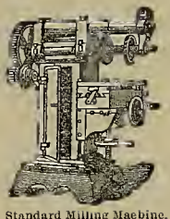
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I have invented and am making a superior double-acting Force Pump, called the GOLDEN STATE, which has great advantages over any Pump in this State. It is the easiest Pump repaired, and is the most durable of any Pump in the pump kingdom.

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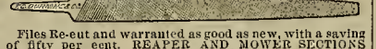
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It were fruitless for us to say anything in praise of the MINING AND SCIENTIFIC PRESS. * * * It speaks for itself wherever it goes. Its editors are men of intelligence, ability and honor.

We have had frequent occasion to have business relations with the patent agency connected with this establishment, and have had nothing left to desire in regard to it. Fidelity, promptness and courtesy, soon arranged everything for us to our complete satisfaction. Having had frequent delays at Washington while in that city, we have been surprised at the promptitude with which some of our friends obtained their patents through the agency of Messrs. Dewey & Co.—*S. F. Spiritual Light.*

PASSENGER RATES ON THE POSTAGE PRINCIPLE.—Raphael Brandon, says *All the Year Around*, is the author of a new scheme of railway organization, promising results as wonderful as ever the street seller of Bisnagar vaunted of his carpet. It is simply an adaptation of Sir Rowland Mill's post-office scheme to railway passenger traffic. He proposes to treat a passenger like a letter, and send him anywhere over the kingdom, regardless of distance, at a fixed minimum charge. A three-penny stamp shall take you, third class, any journey in one direction, you like to go, whether from Ludgate Hill to Sydenham, or from John O'Groat's to Lands-end. If you prefer second-class, you will take a sixpenny stamp; if you luxuriate in first-class, your postage will amount to one shilling. This sounds as mad as the penny postage innovation sounded at first. But Mr. Brandon quietly proceeds to argue in his pamphlet that it would pay everybody, shareholders, the public and the Government, besides giving renewed impetus to industry of all sorts. The sum proposed to be charged for passenger postage looks ridiculously small. In reality it is not much less than the average fare at present paid for the average journeys as might be supposed. In 1865, in round numbers, 3,500,000 passenger trains run over 71,000,000 miles, carrying 252,000,000 passengers. The traffic produced £14,724,302. This gives an average for fare, at present paid, per average journey, of 14d. only. Now, says Mr. Brandon, give me a universal 3d fare everywhere, and I will promise you six times the traffic, which will give the united railway interest an excess of £4,000,000 of receipts, with very little, if any addition to the expense of carrying an increased number of passengers.

But that is merely supposing that each person paid but threepence. It is calculated, however, that, of the increased number of travelers, one-seventh would ride first-class, at one shilling, and two-sevenths second-class at sixpence. This would raise the annual return to £32,000,000 for passenger traffic, instead of £14,750,000, as at present. Does some one say that the analogy between carrying a passenger and carrying a letter is false, because a letter is but half an ounce, and a passenger is really a meaty hundredweight? Which is, by far, the most expensive part of the postal system? The transit of a letter or its delivery? Its delivery. Granted, then, that the transit of a passenger is something more expensive than that of a letter, the passenger's side, for the additional expense of transit is nothing to the saving in distribution and delivery.—*N. Y. Correspondence of the Bulletin.*

TIN.—The following is from a communication to the London *Mining Journal*:—"The tin mines in Cornwall were working long before the birth of our Saviour, but at that period the tin was found in great masses on and near the surface; in fact, the valleys were rich in tin a few feet only below the surface, and the richest deposits were invariably found nearest the fast, or solid rock. The "fast" was the ancient term for rock. These valleys were turned over by a class of laborers called streamers, and the tin was found at comparatively little cost beyond the labor, which was low, when compared with the price paid at the present day. The tin obtained from the islands of Bauca and Billiton is found much in the same way as the tin was originally found in Cornwall. Tin in Banca, etc., is procured by Chinese coolies at a very cheap rate—from 3d. to 5d. per day—but in Cornwall the price of labor is at least 2s. 6d. per day. Formerly men's labor in obtaining tin in Cornwall averaged from 10d. to 12d. per day. Men and their families lived differently in days of yore. Barley bread was largely consumed by the mining population formerly, but in the present day such a thing as barley bread is the exception in the cottage. You may see such an article on the rich man's table, but never on the poor man's.

PEAT FOR SMELTING.—B. M. Peirce, M.E., recently a student at the *Ecole des Mines*, Paris, is attempting to demonstrate at the Marquette Lake Superior iron mines, the adaptability of this kind of fuel to the smelting of ores in blast furnaces, the question being mainly one of economy compared with coal. Crumbling, and consequent choking up of the furnaces, have been the difficulties encountered heretofore. If peat can be made to answer the purpose, Mr. Peirce is the man to prove it. Extraordinarily pure peat has been found to answer to a limited extent.

THE GOLD-BEARING ROCKS.—Sir Roderick Murchison, in the new edition of his "Siluria," has modified the views first put forth by him as to the distribution of gold in the earth's crust. His more recent conclusions are:

1.—That looking to the world at large the auriferous veinstones in the lower silurian rocks contain the greatest quantity of gold.

2.—That where certain igneous eruptions penetrated the secondary deposits, the latter have been rendered auriferous for a limited distance only beyond the junction of the two rocks.

3.—That the general axiom before insisted upon remains, that all secondary and tertiary deposits (except auriferous detritus in the latter) not so especially effected, never contains gold.

4.—That no unaltered, purely aqueous sediment ever contains gold, the argument in favor of the metal is prodigiously strengthened; or in other words, that the granites and diorites have been the chief gold producers, and that auriferous quartz bands in the palæozoic rocks are also the result of heat and chemical agency.

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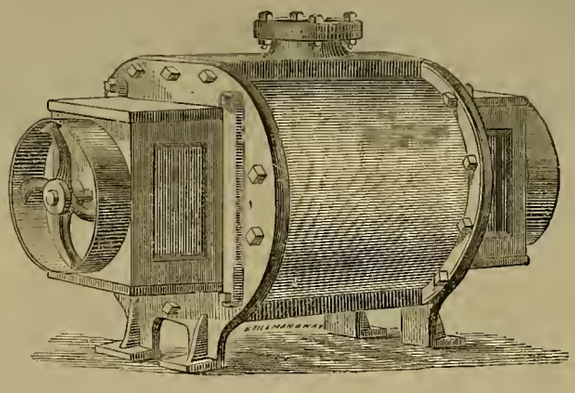
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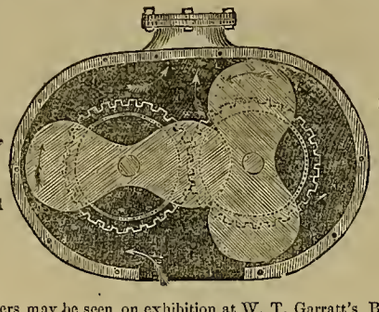
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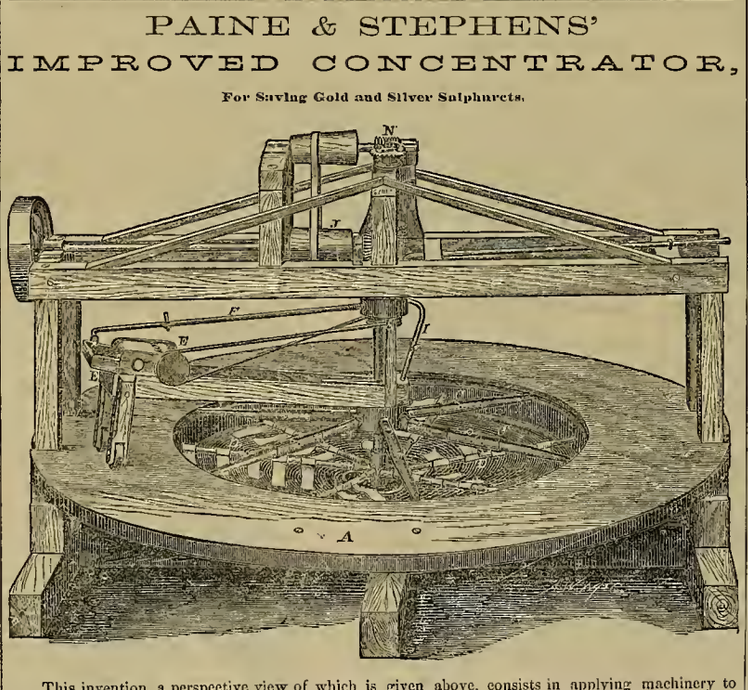
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Copper Reduction Works at San Francisco.

We are informed that a company is perfecting organization for the purpose of erecting copper reduction works at San Francisco, probably in the vicinity of the Dry Dock, at Hunter's Point. As it is in the metallurgical difficulty,—the economy of reducing low-grade ores in this country,—where our copper interests have met their *quietus*, the new wet process of Bischoff promises something that we all hope may be realized to the profit of the parties concerned and the advantage of the coast. Similar works have been put up at Virginia City to operate on transmontane copper ores; but as that location is at a distance from actual copper mines, and not in a center of easy natural communication, it is presumed that the objects there were mainly experimental.

Bischoff's process is to roast copper sulphurets to such a stage of freedom from sulphur and combination with oxygen, as is recognized in the form of sulphate of copper—chemically, nothing more nor less than blue vitriol. Being then soluble in water, the sulphate of copper is leached out, and spongy metallic iron, prepared by a peculiar process from black sand (magnetic iron), is thrown into the solution. As the sulphur prefers iron to copper, the latter is dropped almost instantaneously, falling to the bottom in the form of a red metallic powder. Impurities in the copper which result in the smelting product, are here avoided, rendering the further refining of the copper to a marketable state easy.

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POLYTECHNIC SOCIETY.—A meeting was held on Thursday evening at the Committee Rooms of the Mechanics' Institute, by those interested in the formation of a polytechnic Society in connection with the Institute. The number present showed the great interest taken in the subject by the members. The President of the Institute, Mr. Hallidie, called the meeting to order, and H. J. Holmes was elected Secretary. The Chairman briefly stated the object in calling the meeting, and called upon gentlemen present to give their views. The aim and scope of such polytechnic societies as those connected with the American Institute at New York, the Franklin Institute at Philadelphia, and the Polytechnic School of London, were presented by different gentlemen. The agreement seemed general as to the necessity for such an institution and the desirableness of having it organized at once. Several gentleman spoke upon the subject. On motion a committee of five were named by the Chair, to report a plan of organization and by-laws, on Tuesday, Dec. 22d. On motion, the Chairman was added to the committee. The Committee stands as follows: A. S. Hallidie, W. F. Herrick, John J. Hucks, A. T. Steen, J. H. Culver and Amos Bowman.—*Bulletin.*

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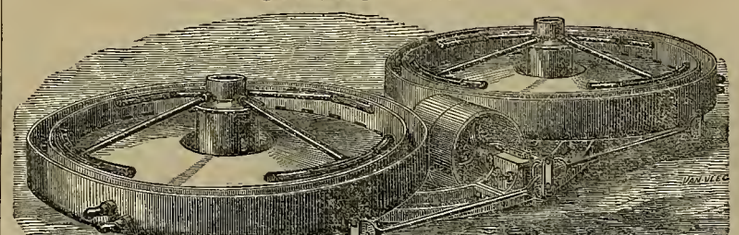
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OFFICE OF THE ONEIDA MINING COMPANY, Jackson, May 13th 1868

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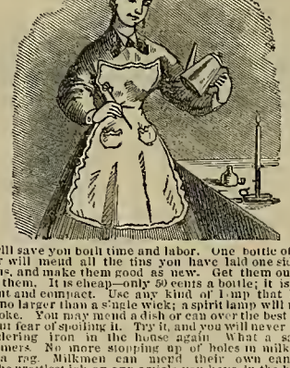
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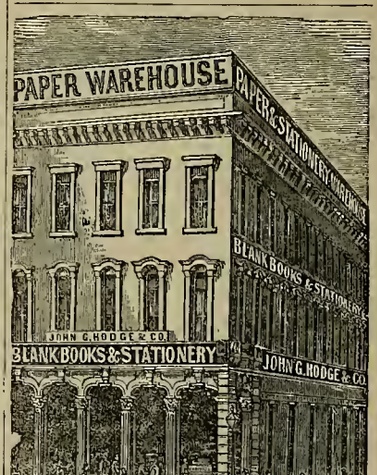
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San Francisco Mining Shareholders' Directory.
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San Francisco Metal Market.
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Disinfectants.

There seems to be a difference of opinion among us in regard to the question, what is the best disinfectant for common use during the prevailing epidemic? "One who knows," recommends the sprinkling about of sulphate of iron (copperas) in solution; another who knows suggests concentrated acetic acid; another insists that permanganate of potash is absolutely infallible. But besides these, there are two substances, each of which has claims, which are urged by a legion of advocates; and it is hard to say, perhaps, which party has the best of it. These are *chlorine* and *carbolic acid*. They are employed in various forms. The first, chlorine, either as chloride of lime, moistened with water, and placed in the room to be purified; or as chloride of soda, (Labarraque's solution), sprinkled around the room; or as chlorine gas, prepared by pouring sulphuric acid upon a mixture of peroxide of manganese and common salt. The latter substance,—chloride of sodium,—is decomposed; soda combines with the acid, and the chlorine, is set free and escapes in the form of a most pungent and searching gas. The second of the substances named, carbolic acid, is used either in the form of solution in water, or as creosote,—which is essentially the same thing, although not chemically identical with it,—or as carbolate of lime. As a disinfectant, many persons insist that it is unequalled. They declare that a drop or two of carbolic acid will, for instance, effectually and permanently destroy all odor from a decomposing rat; while chlorine will merely *overcome* the odor by its superior pungency, and that for a time only,—the odor becoming as strong as ever, as soon as the gas is dissipated. Of these two disinfectants, the chlorine is the one which is advocated and employed by our Health Officer; and his opinion and practice is concurred in by many physicians of reputation. We are inclined, for our own part, to follow suit, and we therefore recommend the general use of chlorine in some form, until the plague is stayed.

A COMMUNICATION from Boise City, Idaho, has been received, and will appear in our next issue.

Mechanical Movements.

The simplicity of the little devices by which man accomplishes his great results,—more wonderful than those of magic, more imposing to man himself, and more colossal than the vaunted deeds of mythological gods,—is exemplified by an elementary table of mechanical movements. What matters it whether we are small and weak, born without terror-inspiring appendages and instrumentalities, offensive or defensive, unprovided with Jove's power to command and be instantaneously obeyed, so long as we attain the same ends by ingenuity, and by the exercise of the power of will?

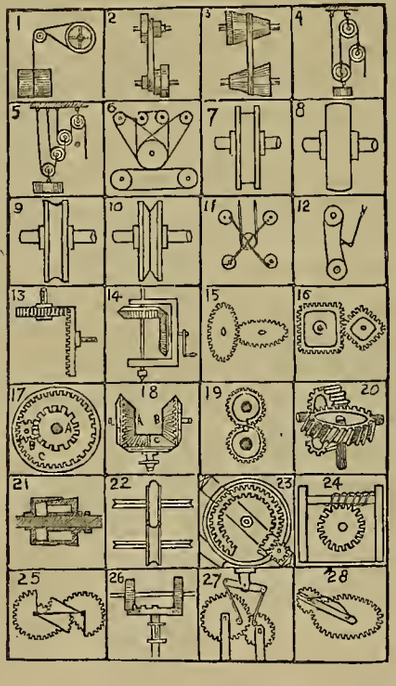
The following illustrations and descriptions, with additional ones which are to be given in succeeding numbers, have been compiled from different sources, chiefly from Brown's "507 Mechanical Movements":

1. A method of transmitting motion from a shaft at right angles to another, by means of guide-pulleys. There are two of these pulleys, side by side, one for each leaf of the belt.

2. Speed-pulleys used for lathes and other mechanical tools, for varying the speed according to the work operated upon.

3. Cone-pulleys for the same purpose as 2. This motion is used in cotton machinery and in all machines which are required to run with a gradually increased or diminished speed.

4. Known as Spanish bartons.



We find it instructive to dissect, and to analyze great things, in order that we may learn how insignificant, after all, are the elements and the several successive movements by whose combination they have been attained. We learn to understand the nature of things by generalizing; we proceed to accomplish things by organizing, and combining. As it is always by a combination of circumstances and conditions that great events, as well as great things, are produced, so it is by a combination of but few and simple mechanical movements and conditions of matter, that our mechanical wonders, the triumphs of advanced civilization, are accomplished. And by the same law it is *combinations* that are recognized by the Patent Offices, in regard to inventions.

We cannot define where is the end of Invention. It is as infinite as the variety of the universe, and as unlimited, regarding the great results that we are yet to accomplish, as the god-like and unknown destinies of man.

5. Different arrangements of pulleys. The following rule applies to these pulleys: In a system of pulleys where each pulley is embraced by a cord attached at one end to a fixed point and at the other to the center of the movable pulley, the effect of the whole will be = the number 2, multiplied by itself as many times as there are movable pulleys in the system.

6. Belts and pulleys.

7. A flanged pulley to drive or be driven by a flat belt.

8. A plain pulley for a flat belt.

9. A concave-grooved pulley for a round band.

10. A smooth surface V-grooved pulley for a round band.

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16. Rectangular gears. These produce a rotary motion of the driven gear at a varying speed. They were used on a printing press, the type of which were placed on a rectangular roller.

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19. Scroll-gears for obtaining a gradually increasing speed.

20. Oblique toothed wheels.

21. Friction cones. (Sectional view).

22. Friction pulleys.

23. Revolving into reciprocating motion, by an endless segmental rack and pinion, the axle of which revolves and slides in a slot toward and from the rack. This rack is secured to a disk, and a rope round said disk extends to the body, to which a reciprocating motion is to be imparted.

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27. Reciprocating motion to a rod. The wheels are of different diameters, and consequently the rod has to rise and fall as the wheels revolve.

28. Revolving motion by a circular sliding pinion gearing in an elliptical cog-wheel.

ORGANIZATION OF A POLYTECHNIC SOCIETY.—Further steps for the organization of a polytechnic society under the patronage of the Mechanics' Institutes (though in reality to be as far as possible on an independent basis), are to take place at the Mechanics' Institute on Tuesday evening, when the committee appointed at the last meeting will report. The idea of the American Institute Polytechnic Club, which has benefited all classes interested or concerned in the useful arts by bringing into communion the practical talent and ingenuity of the country without dabbling in the unapplied sciences, is to be carried out for this coast; combined with the original idea of the English and Scotch Mechanics' Institute, and of the very successful London Polytechnic Institute, that of encouraging and facilitating the delivery separately of popular lectures on scientific subjects; besides which provision is proposed to be made according to the demand for the education of young persons in the technical and industrial branches. Concerning the necessity for some such live organization, to sustain regular meetings, and to concentrate as much information and talent as possible to a proper and enlightened solution of the industrial problems of this coast, independently and significantly situated as we are with regard to the rest of the world, nothing need be said, or can be more conclusive or eloquent, than a simple statement of the objects themselves. That San Francisco has enough intelligent mechanics and scientific men of the practical sort, to sustain a very creditable polytechnic society, has been evidenced by the attendance and interest shown at the first meeting held a fortnight preceding.

Engineering.

[Written for the Mining and Scientific Press.]

N. Y. Society of Practical Engineering.

This Association met as usual on the evening of Tuesday, the 24th of November, at the Cooper Institute, New York city, James A. Whitney, the President, in the Chair.

Mr. T. P. Pemherton, of New York, read a paper upon the stated subject for the evening, viz: "Elevators and Hoisting Machinery"; in which, after an elaborate exposition of the construction of this class of devices from early periods up to the present time, he proceeded to sketch, hy the aid of drawings, the prominent characteristics of the more important varieties of this class of mechauism now in use.

Speaking of the windlass, in its primitivo form, he stated that it could still be found, in all its primitive simplicity, on Chinese junks, and had been in use in tho English merchant service less than one hundred years ago; hut of late years has of course been very much improved upon, principally hy the addition of the so-called friction pawl, by means of which the slippiug hack of the cable strained around the windlass is effectually prevented, and accidents to the operators and waste of power is provided against in a very high degree.

Of hoisting cranes it was stated that the availahle power of one man workiug at the winch ten hours per day, and moving the winch at the rate of two hundred and twenty feet per minute, amounts to only about fifteen pounds. The more extended employment in industrial estahlishments of this variety of apparatus, was strongly urged, especially with reference to those cranes working on trucks and knowu as traversing cranes. One of these used in locomotive works in England has heen used to lift a finished locomotive into the air and move it over twelve or fourteeu others, quite to the other end of the workshop.

The writer classified the apparatus commonly known hy the distinctive name of elevators and used in mines and buildings, into several subdivisions, among which may he noticed the vertically-moving elevators operated hy steam or hand power. Those moving on inclines and worked either by ropes or through the agency of compressed air, and those employed in grain mills, and the like. Of those used in buildings for elevating persons and goods, the majority are worked either hy hemp or wire rope, or hy means of screws or spiral gears. The former means of raising the platforms are liahle to give way, either from the ahrasion of the hempen fihers upou each other when hent in passing over the hoisting pulleys, or in the case of the wire rope, under the same conditions, hy the destruction of the fihrous nature of the metal. The catch-pawls, commonly employed in this description of elevators to stop the downward movement of the platform in case of the hreakage of the draught rope, are frequently of no avail, the platform acquiring such velocity before the pawls can catch in the ratchets, that the pawls are hroken and rendered useless. The writer also described, by the aid of drawings, the several varieties of elevating apparatus more commonly employed in warehouses, hotels, etc.

At the close of the paper, Dr. A. W. Hall explained a method of raising heavy masses of stone, which he supposed to have been used by the ancients. In this the stone is tilted alternately upon two fulcra placed under its center, and hut a slight distance apart, each fulcrum heing made successively a little higher as the stone is lifted from it. It was stated that in old times men were trained to walk from one end of the stoue to the other to give it the regular tilting movement.

Mr. L. Holms explained an English elevator in which two sets of platforms are worked alternately up and down by a crank motion from a steam engine. The platforms move up and down the distance of one story, so that hy stepping to and fro from those of one series to those of the other, a person may take advantage of the upward movement of each, aud he thus raised to the top of a huilding, or to auy intermediate story.

According to the rule, permittiug a hrief explanation before the society of uew and useful improvements, Mr. Manner, of New York city, exhibited his improved Arion piano forte, the essential feature of which lies in a peculiar construction hoth of the iron frame and the rest-plank, hy which great volume and brilliancy of tone is secured, as well as great permanence in the tuning of the instrument. Mr. Frederick R. Pike explained his new system of propulsion for steam vessels, which iucludes the use of pistons actiug upou the water at the stern of the vessel, aud designed to avoid the slip aud lift, and cousequent waste of power which occurs with the use of paddle-wheels.

At the next meeting the suhject of "Modern Improvements in Mining Apparatus," will he considered.

San Francisco Water Supply.—Though water is hrought from a great distance dowu in the San Mateo Coast Range, and ahout all the available sources within reach south of the Golden Gate are tapped for the henefit of the metropolis, it appears that our water supply is yet limited; so that in case of a great fire we should he obliged to take to the Bay for a sufficient supply. The Market street main is only eight inches diameter; and such streets as Montgomery and Kearny, have only six-inch maius, while iu other streets the pipes are from six to two inches. It is found in practice that such a service is quite iusufficient to keep our preseut force of engines supplied. A company exists which was incorporated for the purpose of hringing water from Tamalpais; hut as there is not much water there, the scheme has been deemed by many impracticahle. Another and ample source of supply, to he resorted to when San Francisco doubles or trebles in size, is Monte Diablo, where San Ramon, Amador, and other creeks, afford more water than will be needed for all time.

Coffer Dam and Sea Wall at Fort Point.—The surf at Fort Point has heen nnusually severe recently, throwing its spray higher than the top of the Fort, and the heavy blocks of granite which protected the foot of the dam having heen removed for use in the sea wall in its rear, the sea has undermined about 100 feet of the former, and it was expected that the whole of it would he carried away during the winter. This dam, which is 600 feet long, has served its purpose, but it is so strougly put together that it does not pay to attempt to save much of the material used in its coustruction.

Tunneling with Giant Powder and Gunpowder.—At the New Almaden mine, recently, comparisous were made in tunneling with the aid of giant powder and the ordinary gunpowder, which resulted, according to a certificate of the company, in a cost of $45.45 per cuhic yard with the former, and of $65 with the latter—a difference of $19.55. At the same time it is claimed in favor of the giant powder that the smaller hlasts and smaller drills required with their more powerful agent will save much labor in drilling aud in the reduced size of openings and passages uecessary.

Official Opening of the Suez Canal. The Imperial schooner Levrette has left Toulon for the Red Sea. She was to pass through the Suez Canal, and her trip was to be considered the official opening of the Suez Caual. She was to head a procession of yachts and pleasure hoats to the numhor, it is said, of a thousand.

Reduction Works in Colorado.

J. R. Snowden, in his report on the Mineral Resources of Colorado, writes:

The Georgetown Silver Smelting Works are in successful operation; and although the operations are chiefly confined to the reduction of the argentiferous galena ores, yet they have assayed most of the varieties of ores of the silver belt. In answer to my call upon Mr. John T. Herrick, the Superintendent of the company, he politely furnished me with a statement showing—1. The manuer of reducing the ores. 2. The names of the lodes, the location, width of pay vein and yield per ton of ores brought to the works for treatment. 3. The general assay value of ores reduced from July, 1867, to July, 1868. 4. The assays of other ores brought to the works for simple assay. 5. General prospects, and an estimate of operatious for the present fiscal year, commencing July 1, 1868. 6. The present activity of mining in the Argoutine and Griffith districts. 7. Some general remarks upon the silver regions of Colorado. I present Mr. Herrick's paper as part of this report. Some of the statements are known to me personally to he accurate, and all may be relied upon as comiug from an intelligent and well informed gentleman. The German reducing works of Messrs. Huepeden, Wolters & Co. are in successful operation. They use the smelting as well as the amalgamating process. The Washington Mining association are erecting mills in which the stamp process, and smelting with reverberatory furnaces will he used. The agent, Mr. George Stille, informed me that the works will have a capacity to reduce thirty tons of ore in twenty-four hours. The Baker Silver Mining Co. are erecting, and have nearly completed, an extensive mill for smelting the ores, and reducing by stamps and amalgamation.

W. R. Thomas, associate of Mr. Hollister on the *Rocky Mountain News*, furnishes the following valuahle information editorially:

Men used to he anxious to own mines. They are now in search of profitable mines. This question of profit is admirably settled by the operations of the reduction works. Remarks concerning them would naturally come last, but I place them first hecause I regard them as the most important.

"These reduction works must in the first place he set down as ridiculously small and inadequate. The general rule in our Territory has heen otherwise; but Goorgetown cau and does produce more ore than there are reduction works to handle. These works were erected here in the early history of the mines, and are on an exporimental rather than a practical working scale.

"The Georgetown Smelting Works have heen run this season for seventy days, less time of delays on account of repairs, etc. The company have paid the following prices in currency for various lots of ore as follows:

4½ tons	Terrible ore, at		$394 44	per ton.
1	" Hise	"	659 00	"
3	" Coin	"	546 00	"
5½	" Terrible	"	518 18	"
7	" Terrible	"	675 00	"
4	" Terrible	"	500 00	"
4	" Terrible	"	430 25	"
2	" J. J. Roe	"	560 00	"

These prices paid by the company show most clearly the richness of the ore, hut the amount of silver which was taken out of the different lots, I was not ahle to ohtain, as many of them were mixed in working. The only separate run I could obtain was twenty-one tons of ore from the Brown lode, which yielded $221.24 in coiu per ton. During the seventy days which the furnace was in operation, 101 tons of ore from various lodes were worked, and the total amount of silver shipped from the works was 20,000 ounces. For the average yield of the ores run, therefore, we have a small fraction over 198 ounces per ton.

Following are Mr. Thomas' remarks, bearing date Sept. 27, on the stamp mills of Gilpin County:

I was aware from the report that there was great activity among the mills of this county, but I have found far more than I had anticipated. It is something less than a year and a half since I was last here, and the change which has in that time taken place is most marked and encouraging. Then, all was stagnation and depression; now, everything is active and prosperous. Men are mining, milling, and making money; business is lively, and every one sees the dawn of better times. Iu the two days and a half which I have had to spend here—a ridiculously short space of time—I have visited all the mills to learn tho number of stamps ruuning, and the averago amount of oro heing crushed. The mines I did not visit, for I had not time. Iu fact, information coucerning milliug has heen less sought for, and is more needed by the puhlic than any long description. That tho miues aro here, and are rich, is a fact uever questioned. How to get the gold out of them, however, has heen tho question for years. Whether it will remain so, much longer, is doubtful. Stamp mills were once ahandoned, hut stamp mills are now making money, aud I believe could have been doiug so all these long years of dullness—if people had only thought so. In making my ride through this section, I helieve that I have ohtained every mill that is now in operation. If any have been missed, it is hecause I could not find them, or my frieuds did not tell me where they all were. The following tahle is, I think, very nearly correct:

STAMP MILLS IN OPERATION.

Mills.	Number of Stamps.	Cords of Ore Crushed per week.
Peregrine's	12	6
New York	33	24
Dickinson's	15	9
Black Hawk	80	35
Miller & Buffington's	12	8½
Fitzpatrick's	10	7
Hurd's	20	14
University	15	9
Miley, Sanderson & Co's	13	8
Douglas	20	12
Sterling	23	8
Terry Smith & Co's	20	12
Briggs	50	20
La Crosse	12	3½
Conlee's	18	7
Ophir	24	14
Philadelphia	25	16
Kanzas-Colorado	12	6½
Stoner's	12	6
Pacific National	24	12
Mansur's	12	6½
Clayton	9	4½
Beverly	9	8
Whitcomb's	12	7
North Star	17	8
Alps and Granada	12	4
Montana	15	10
Lexington	24	12
Sensenderfer	20	6
Narragansett	40	20
Delaware	20	9
Kip & Buel's	12	7
Wilson's	15	8
Cheney's	12	6½
Brastow's	20	8
J. Toscher's	12	7
Kimber's	12	8
Barret Co's	20	15

"The totals of these figures are as follows: Mills, 38: stamps, 745; ore crushed, 392 cords per week. Estimating 7 tons to the cord, we have 2,744 tons; whilo estimating 8 tons to the cord, we have 3,136 tons. I give each estimate, because there is a difference of opinion among millmen as to what a fair average is, as different ores vary. The majority, however, say 8 tons to the cord, and on this basis I shall therefore figure. The tahle given is in itself a proof of the activity of Gilpin County. Millmen inform me that the supply of ore is ahout sufficient to keep their stamps running, but as yet there has heen no surplus. Thus far the supply has been equal to the demand. In anticipation, however, of a large supply of ores, a numher of new stamp mills are being erected, and will be completed during the coming season, by the following parties: J. Sensenderfer, building (stone) 40x60, 40 stamps—probahle cost, $15,000. Miley & Ahlie, building 50x50, 25 stamps—probable cost, $10,000. Lake & Fields, building 30x40, 25 stamps—prohable cost, $10,000. Nesmith & Co., building 36x36, 20 stamps—probable cost, $10,500. New Beverly Mill, building 30x40, 12 stamps—prohable cost, $5,500.

"Besides these are the new mills of tho Consolidated Gregory and Smith & Parmelee Companies, which will be noticed hereafter.

A Nut for "Caxton" to Crack.—Those theorists who maiutain that it is not the *earth* which quakes,—hut the thiugs *upon* the earth,—in the little "onpleasantnesses" such as we felt on October 21st,—may perhaps find a difficulty in making the following facts fit neatly iuto their "electrical" explanation of the phenomena: In 1822, in a single night (Nov. 19), the whole coast line of Chili for a hundred miles about Valparaiso, with the mighty chain of tho Andes, was hoisted at one shock from two to seven feet ahove its former level, leaving the beach *below* tho old low-water mark high and dry. In 1819, iu an earthquake in India, in the District of Clntch, hordering on the Indus, a tract of country more than 50 miles long aud sixteen hroad, was suddenly raised ten feet ahove its former level. And again, in 1538, in the convulsions which threw up the Monte Nuovo, the whole coast of Pozzuoli, near Naples, was raised twenty feet above its former level, and remaius so permanently upheaved to this day.

New York Schools.—The Board of Education of New York city have resolved that hereafter mechanical and free-hand drawing shall he taught in every grade of the puhlic schools.

Mechanical.

THE ARTUS MORTAR.—The *Iron Age* describes the manner of preparing the new mortar invented by Dr. Artus, in which the silicates, to which all mortar owes whatever firmness it may have, form more rapidly and completely than in any before known. Well slacked lime is carefully mixed with finely sifted sand. Then fine unslacked lime is added to the amount of one quarter as much as that of the sand used. The whole is mixed thoroughly; during which operation the mass heats, and must be used immediately. It becomes very hard in a short time. The writer says: "An experiment known to us, yielded the following result: One part of well slacked lime was carefully mixed with three parts of fine sand, and just before using, three quarter part of fine unslacked lime was added, and the whole then thoroughly mixed. The mortar thus prepared was used in building a foundation wall, and after four days became so hard that a pointed iron could not be driven into it; it clung with equal tenaciousness to the stones of the wall. After two months the mortar was just as hard as stone. We have then, here, a very valuable discovery under consideration, which must also be of great account from an economical point of view, when the high price of cement is remembered."

PNEUMATIC RAILWAYS.—Mr. P. Dickson read a paper, Oct. 13th, before the Society of Practical Engineering, of London, Eng., in which,—after referring to the various plans for atmospheric propulsion, which have been proposed and adopted at different times, and noticing their defects,—he referred to a plan of his own, which combined some of the features of the old plans with new applications and a device for easy compression and propelling power. It consists in a tube laid the whole length of the road, which is connected at the termini and at suitable intervals along the line of road with pumping engines, which condense the air into large stationary reservoir tanks, to which the pipe is connected by branch pipes, and supplying tanks located under the seats of the car or any convenient place. This plan is adapted to elevated as well as underground railways.

CONSUMPTION OF SMOKE.—The London *Mining Journal* says: A simple and efficient arrangement for the prevention of smoke is being introduced extensively by the Manchester Association. The inventors state that they make a peculiar form of longitudinal bars (hollow), each of which, when in action, delivers into a chamber a continuous and strong current of heated air, making together an elaborate, uniform and powerful stream of oxygen. The flame and smoke have to pass through this, which comes from below, and acts on the flame like a concentration of about 24 blow-pipes. The smoke is burnt instanter, and that, too, before it can get six inches away from the fuel. All the ironwork is placed out of the reach of the concentrated action of the bars and consequent intensified flame while burning the smoke, so that renewals of any portion even of the ironwork are rarely necessary. The saving of coal is estimated at sixty tons per annum for a 40-horse power boiler.

THE KENNEDY CLOCK.—This new electric clock is thus briefly described by the *Scientific American:* The clock is impelled by the motion of the pendulum, and is of extremely simple construction. The pendulum ball contains a permanent maguet, which is alternately repelled by oblong helices placed on either side of it at a proper distance. The helices connect with a zinc and carbon earth battery, and the circuit is alternately broken by a commutator attached to the pendulum rod, which is of rosewood, baked, and saturated with paraffine. The clock will run without winding, or any other attention, after the primary adjustments are made.

THE ANGLO-FRENCH RAILWAY BRIDGE.—An iron bridge is to be constructed from Dover to Calais. It will be,—says the London *Mining Journal*,—32,822 yards in length, divided into ten arches of uniform span, resting on nine piers, rising to a hight of 360 feet above the sea, so as to allow of the free passage of ships of the largest class. The arches are constructed on a new system, by which absolute rigidity is secured by the use of wire cables and wrought iron—an ingenious and very simple system of scaffolding rendering the placing of the parts extremely easy. Metallic framework piers, with foundations about 400 feet long by 250 feet wide, and tapering to about 200 feet square at the top, are to be employed, the center pile being half as large again as the others. The piers are to be screwed down by seventy or eighty powerful screws, and are so arranged that they can be constructed on land, floated into position and fixed at once.

NEW STANDARD WIRE GAUGE.—The new "American" gauge of Brown & Sharpe, Providence, R. I., was exhibited and discussed at a recent meeting of the Franklin Institute. It seems to have been generally approved. The *Journal* of that Association says of it: "In this scale the starting-point is taken at No. 36, which represents a diameter of .005 of an inch, and this quantity being multiplied by .0503536, gives the next size, or No. 35, and this product being again multiplied by the same factor, gives the next, or No. 34, and so on for each successive size above, while the smaller sizes are obtained similarly by dividing .005 of an inch, and the quotients obtained successively by this same number. It will be perceived that the sizes vary in a regular geometrical progression, which produces a very gradual change in size for the smaller dimensions, but a rapidly increasing difference as the larger ones are reached; exactly what is demanded in practice.

UTILIZATION OF WASTE STEAM.—Herring & Co., of Chertsey, Eng., have patented an apparatus into which the steam from high-pressure engines is led and condensed,—passing thence in pipes through the buildings for the purpose of warming them. It is then led back into the boiler, still hot. Not only the water is mostly saved, but the fuel necessary to convert it again into power, is proportionately less. Moreover the condensed water, being pure, cannot produce any incrustation upon the boiler.

IRON-RUST PREVENTED.—Half an ounce of zinc dust mixed with one ounce of oil varnish, and rubbed several times upon one square foot of cast iron will preserve the metal from rust, unless it is to be exposed to soap water or other alkaline liquids. In that case, the iron must be coated with two parts of waterglass (silicate of soda), employed in solution, marking 20° Beaumé, and one part of zinc oxide intimately mixed together. This material, laid on as a thick varnish, gives the iron a kind of enameled appearance, and the protective coating will not yield to soap water.

NEW STEAM ENGINE.—Abraham Kipp, of Sing Sing, N. Y., has patented an improvement consisting in a certain combination of double pistons working in cylinders which are arranged radial to a central shaft and operating in a direct manner through yokes on or in connection with a crank secured to the shaft; also a valve having a fixed character relatively to the crank, whereby a most simple and efficient engine is produced and which may be used either as a motor for driving purposes, a pump, or a meter.—*Artisan.*

MAGNESIAN CRUCIBLES.—A French patent has been taken out for the manufacture of crucibles from magnesia. They are said not to be affected by any change of temperature. For the melting of platinum, etc., they are well adapted.

SOLDER FOR ALUMINUM.—A solder recently invented for soldering the metal aluminum is now coming into extensive use in the manufacture of dental plates from this material, and is found far superior to the silver solder ordinarily in use. It is composed of seven parts of aluminum and one of tin.—*Am. Artisan, Nov.* 18.

Scientific Miscellany.

PREVENTION OF MINE EXPLOSIONS.—A new method of destroying choke-damp by means of electricity has been submitted to the Paris Academy of Sciences by M. Delaurier. The inventor proposes to place copper conductors, of considerable thickness in the galleries; these are to be broken at intervals, and joined by means of very thin gold wire soldered to the copper, the gold wire to be surrounded by flowers of sulphur, which ignites readily. By passing a strong current of electricity through the conductors, the gold wire becomes red hot, the sulphur is iguited, and burns the mixture of air and other gases which may be present. By this means the circuit is never broken; and if an explosion of gases take place, it is shown by the fact of the sulphur being blown off. The electric current is to be made to pass through the apparatus every morning, before the descent of the miners, and by putting a few pinches of sulphur on the gold wire every morning, many lives may be saved.

THE ARCTIC EXPEDITIONS.—The *Germania* succeeded in reaching the high latitude of 81° 5 min. The attempts made to find an open polar sea were unsuccessful. The expedition was not, however,—it is said,—without valuable results. Important corrections have been made in previous charts.

The Swedish expedition is reported to have reached about the same latitude towards the end of August; but a week later the sea to the northward became clear of ice. The exploring steamer, after taking in coal, sent out for her use to Kobbe Bay, made again for the north, whether to pass a winter in the ice or not, is at present uncertain. Meanwhile, the coal-ship returns to Sweden, bringing five of the exploring party "with the rich geological, zoölogical and botanical collections" made during the first part of the voyage.

REACTION OF MERCURIC OXIDE ON ALKALINE SALTS.—In a paper recently published in *Annales de Chimie et de Physique*, M. Fonberg states that the muriates of the alkalies and alkaline earths are acted on by mercuric oxide; that by shaking their saturated solutions with it, or, still better, by boiling them in large excess with the oxide, they yield free alkali, readily distinguishable by the tests, as is likewise the presence of mercury in the resulting solution.

The same takes place in the case of chloride of ammonium; the action is accelerated by subjecting the solution and oxide to boiling in a retort, in which case an ammoniacal distillate will be the result, while the ammonio-chloride of mercury remains in the retort. With alkaline chlorides the process can hardly complete itself, owing to the reaction of the freshly formed caustic alkali on the mercuric chloride in solution, except with a large excess of the alkaline salt.

CEMENTS FOR THE CHEMIST.—Dr. Adolph Ott, of New York, gives the following recipes:

1st. Take of soapstone, 10 parts; sand, 30 parts; asbestos, 5 parts; oxido of iron, 5 parts; oxide of zinc, 50 parts; mix.

2d. Soapstone, 10 parts; sand, 30 parts; hydraulic cement, 5 parts; oxide of manganese, 5 parts; oxide of zinc, 50 parts; mix.

3d. Soapstone, 5 parts; sand, 35 parts; calcined magnesia, 10 parts; asbestos, 5 parts; oxide of iron, 5 parts; oxide of zinc, 40 parts; mix.

The materials for the above should be intimately mixed together, after having first been finely ground. When applied, the metallifrous mixture is made into a pasty mass with a solution of chloride of zinc of 25° to 35° Baumé. Too quick setting is prevented either by the addition of one or two per cent. of linseed meal, or a little ale or beer.—*Journal of Applied Chemistry.*

FORCEPS FOR LABORATORY USE.—David Forbes, F.R.S., describes a convenient forceps with glass tips for use in acids, etc. He cuts off the tips of a pair of strong surgical forceps, and solders on elastic slit brass cylinders, through which pieces of glass rod slide. These latter are flattened at their tips after softening in the flame.

Allotropic Forms of Metallic Arsenic.

The *Gas-Light Journal* of Nov. 16th gives the following by Prof. Wurtz, from the German of Bettendorff: Upon the sublimation of pure metallic arsenic in a quick current of hydrogen gas, there is deposited in the neighborhood of the heated point, metallic hexagonal arsenic, somewhat further on black amorphous arsenic, whilst the whole of the rest of the tube is filled with a clear yellow vapor, that quickly deposits, becoming dark yellow, and finally gray. This *gray* powder was proved to be the metal arsenic by oxidation with nitric acid to arsenic acid, yielding its equivalent of the latter. It was wholly amorphous, and consisted of globules strung to one another in a bead-like manner, exactly like freshly prepared flowers of sulphur. Density at 14° C., 4.71. At about 360° it suddenly passes, with an evolution of heat strong enough to sublime a portion, into crystalline arsenic of density 5.72. The *yellow* powder, which cannot be preserved permanently, passing into the gray condition, constitutes probably another special modification. Amorphous arsenic may be obtained as a black vitreous material by passing the vapor of arsenic, volatilized in a current of hydrogen, through a U-shaped tube immersed in an oil bath at 220°. Slight blows will detach the mirror-like crust formed. Synthesis into arsenic acid shows it to be the pure metal. Density, 4.71 to 4.716. At 360° it likewise passes, as the above, into crystalline arsenic of density 5.72. It withstands chemical agents much better than the crystalline metal. The latter loses its luster in a few hours in moist air, and is very easily oxidated by dilute nitric acid; whilst the amorphous black arsenic remains unchanged for weeks in moist air, and is attacked by nitric acid with much more difficulty. There can be little doubt that the familiar arsenic mirrors of Marsh's test are composed of this amorphous modification.

Prof. W. remarks: "It thus appears that the analogy between the two elements, arsenic and phosphorus, is remarkably exact in this respect. Each has a crystalline form, more or less easily attacked by the oxygen of the air and other agents; and an amorphous form, of comparatively difficult oxidation. Tempting subjects of speculation at once offer themselves here. Are we to find in the case of every elementary body, that these two opposite chemical conditions, the active and passive modifications, may inhere? In another group of the elements we have crystalline and amorphous sulphur, the one soluble, the other insoluble in bisulphide of carbon, and having other antithetical relations; oxygen and ozone; and other similar cases. The most special question that occurs, and one pertinent to the immediate subject is, whether we are not to look for and expect to discover these two opposite conditions in the other members of the elementary group which forms pentacids, to which arsenic and phosphorus belong; namely, nitrogen, antimony, and bismuth (to which we are now in all probability to add, according to the recent elegant researches of Roscoe), the as yet unknown element, vanadium."

DOES ICE EXPAND BY INCREASED COLD? To prove the affirmative, Prof. Tyndall fits bands of cast iron around blocks of ice, and places them in a freezing mixture. The bands burst. Others argue that this effect is due to the contraction of the hands, and not to the expansion of the ice; and instance the cracking open of large ice surfaces during a night of severe cold. "Who shall decide when doctors disagree?"

A NEW BATTERY.—A new voltaic combination of great power,—says the *Telegrapher*,—has been invented by Messrs. De La Rue and Hugo Miller. The elements consist of small cylinders of pure zinc and chloride of silver. The latter is cast upon a thin silver wire, which forms the conductor. The exciting liquid is merely a dilute solution of common salt.

In the battery shown the cylinders were only three inches long, and about the size of a goose quill, arranged in two ounce phials cut down to two-thirds of their length, but a series of ten such couples decomposed water with great rapidity. By the chemical action taking place in the cell, the chloride of silver is reduced and chloride of zinc formed. The action proceeds so long as any chloride remains, for the reduced silver adheres to the wire as a spongy mass, which allows the liquid to permeate to any unreduced chloride.

Educational Institutions of the Pacific Coast.

Not a few persons of sterling moral weight and worth are laboring in the educational institutions of the Pacific Coast. To their veiw the field, in the main, is one of hope; their study, and the results of their labor, relate to the future, when younger hrains shall rule the situation. Frequently under-appreciated, their cause and their element of feeling are yet well worthy of our interest. We therefore append a list, as perfect as we have heen able to make it with the resources at hand, of the leading educatioual institutions of the coast, omitting the common and higher puhlic schools. For portions of the information we are indehted to Rev. B. P. Veeder, President University College; O. P. Fitzgerald, Superintendent of Puhlic Instruction; John T. Barry, editor of the *Monitor;* Señor Marsilino Martinez, Attorney at Law (late of Mexico); and Rev. R. J. Whyte, of St. Ignatius College.

IN SAN FRANCISCO.

University College. Located at University Mound (near Bay View Park, heyond the Mission). City department, on Stockton street, near Union Square. Rev. P. V. Veeder, A.M., Acting Presideut, and Professor of Moral and Mental Philosophy; Rev. Thomas Kirkland, A.M., Professor of Latin and Greek; Thomas A. Rohinson, Professor of Mathematics and Book-Keeping; G. C. Arnold, Ph. D., Professor of Physics and Modern Languages; A. Coulon, Professor of French and Drawing. School of Practical Chemistry and Assaying, Thos. Price, M. D., Professor of Chemistry. Average attendance, about 130 students.

St. Ignatius College, Market street. Sustained by the Jesnit Fathers, having been established by the agency of fuuds sent from Italy. V. Rev. N. Congiato, S. J., President; Rev. C. A. Barchi, S. J., Prefect of Studies—Professor of French; Rev. Jos. Tadini, S. J., Professor of Logic, Metaphysics, Ethics and Chemistry; Rev. E. Messea, S. J., Professor ol Natural Philosophy and Chemistry; Rev. D. Maraschi, S. J., Treasurer, and Professor of Mathematics; Rev. M. O'Ferrell, S. J., Professor of Classics, Rhetoric, Poetry, and Astrouomy; Rev. F. Sullivan, S. J., Professor of Classics and Arithmetic; Rev. J. Buchard, S. J., Chaplain; Rev. R. J. Whyte, S. J., Rev. J. Affrachino, S. J., Mr. J. W. Lannon, Professors of Latin, Greek, English, Arithmetic, History and Geography; Mr. J. O'Donoghue, Professor of Commercial Course and Penmanship, English Grammar and Arithmetic; Mr. J. P. Camphell, Mr. J. O'Dwyer, Teachers in the Preparatory Department; Mr. J. Egan, Teacher in the Elementary Department. Attendance, total, ahout 400. Terms, per month, from $3 to $5.

St. Mary's College, Bernal Heights (four miles south of the city). Boarding school, sustained by the Society of Christian Brothers—who are not ordained priests, but devoted to a particular cause. Brother Vincent, President. Attendance, 95, and increasing. In San Francisco, Father Justin is Principal. There is a corps of five instructors.

Presentation Convent School, for girls. Mother Mary Therese Comerford, Principal. Attendance in 1867, 879.

University School, Post street. Principal, George Bates, A.M.

Union College, corner of Second and Bryant streets. Boarding and day school. Dr. Huddart, Principal. Sustained by the Episcopalians. Formerly this school had quite a number of students from Mexico.

City Female Seminary, on O'Farrell street. Principal, Rev. C. R. Clark.

Sisters of Notre Dame, at the Mission.

Grace Female Institute, No. 618 California street. Miss D. S. Prescott. (Episcopal.) Attendance in 1867, 71.

Home Institute, No. 218 Eddy street. Miss J. G. Prince.

There are a number of generally small private schools, kept by foreigners to some extent, iu which French, German, etc., are taught. Special instructions in various arts and professious are also given by private individuals. Amongst these are the drawiug, fencing, dancing, and hoxing schools,—too numerous to mentiou,—aud several assaying and metallurgical establishments where instruction is given.

Schools in the mechanical trades have not yet been inaugurated in this country, though they are operating with great success in some European countries where the laws concerning apprenticeship are far more strict than they are in America, and the necessity, consequently, for such instruction, to those who would become masters in their trade, less urgent than it is here. The only distinct public professional schools are:

Toland Medical College, located near North Beach. H. H. Toland, M. D., Presideut. Professors: James Blake, M. D., L. C. Lane, M. D., J. F. Morse, M. D., Thomas Bennett, M. D., Henry Gihhons, M. D., Thomas Price, M. D. Students in attendance in 1867, 34.

The California Business University, 424 Montgomery street. E. P. Heald, President, Superintendent of the Course of Instruction, and Lecturer on the Science of Accounts; James L. Fields, Principal of the Practical Department, Professor of Plaiu and Ornamental Penmanship, aud Lecturer on Business Correspondence and the Customs of Trade; F. C. Woodbury, Principal of the Theoretical Department, and Instructor in the Science of Accounts and Commercial Calculations; W. A. Perkins, Assistant Instructor in Book-keeping and Arithmetic; P. O. Sullivau, Superintendent of Telegraphic Department; D. M. Knowlton, Professor of Phonography; J. P. C. Allsopp, Professor of Modern Languages.

Pacific Business College, Mechanics' Institute Building, Post street. A. de Laguna, President; James Vinsonhaller and Messrs. Sereni, Julian, Day and Shear, Instructors.

Specially worthy of mention in this connection are the puhlic—

Boys' High School, Theodore Bradley, Principal; A. T. Winn, J. M. Sibley, A. L. Mann and Mrs. C. L. Atwood, Assistants.

Girls' High School, Ellis H. Holmes, Principal; Mrs. Caroline R. Beals, Miss E. A. Cleveland, Miss S. A. Barr, and Madame V. G. Brisac, Assistants.

State Normal School, Market street. W. T. Lucky, A.M., Principal; Henry P. Carleton, Miss E. Houghton and Mrs. D. Clark, Assistauts. Attendance, 125.

Schools for the Education of Chinese in this city are kept by the Rev. Mr. Loomis, in connection with the Preshyterian Mission, and hy the Rev. Mr. Gihson, in connection with the Methodist Mission, both being well attended. The inducement to the Chinaman is, that a little kuowledge of English enahles them the more readily to "turn a penny." Amongst the Chinese themselves, instruction is given privately, hy individuals depending entirely upon their personal reputation and acquaintance.

AT OAKLAND, ETC.

College of California—about to be merged into the State University. The old faculty and instructors consist of S. H. Willey, Presideut, Rev. Martin Kellogg, Professor of Languages, Rev. Henry Durant, Professor of Ancient History, in the Preparatory Department, separately known as the College school; Rev. J. H. Brayton, A.M., Principal; Rev. H. Beckwith, Associate Principal; Fred. M. Camphell and W. C. Dodge, Assistants; G. Copenhagen, Paul Garin and A. D. A. Champion, instructors in Foreign Languages. Attendance in College school, 160; yearly expense per pupil, $300.

State University, at Berkeley, near Oakland —named after Bishop Berkeley, who, iu the last century, immortalized himself by writing the poem,

"Westward, the star of empire makes its way."

The State University is not yet fully organized, and will not be opened before September, 1869. It is in charge of a Board of Regents, consisting of Messrs. Haight, Hager, Holden, Fitzgerald, Ryland, Hammond, Archer, Parker, Butterworth, Doyle, Watt, Moss, Dwinelle, Stebbins, Felton, Hallidie, Ralston and Reed. No President has been elected yet. The only Professors elected are the brothers Le Count, of South Carolina, on Natural History, Geology and Chemistry, and Dr. Fisher, of Grass Valley, on Mining and Metallurgy. The College of California will he gradually aud entirely merged into the State University.

Oakland Seminary for Young Ladies, Oakland. Mrs. G. M. Blake, Principal. Miss Julia A. Rappleye, Miss Matilda Lewis aud Miss Susie N. Jewett, Assistants; W. Schraubstadter, Music; Mlle. Hermet, Modern Languages. Attendance, 100.

Female College of the Pacific, Oakland. Rev. E. B. Walsworth, Principal; Prof. D. C. Stone, Assistant. Attendauce, 100.

Sisters of Notre Dame, institution for females.

Rev. David McClure's Classical School, near Oakland. Eighty pupils.

Union Academy, at San Ramon, Contra Costa Conuty. Prof. King, Principal. (Cumberland Presbyterian.) This institution was recently burned down, but is to be rebuilt without delay.

SOUTH OF THE BAY.

Santa Clara College, (Romau Catholic), Rev. A. Varsi, S. J., President and Prefect of Studies; Rev. Joseph Caredda, S. J., Vice-President aud Prefect of Classes; Rev. C. Pollanno, S. J., Professor of Divinity; Rev. A. Brunengo, S. J., Professor of Natural Philosophy and Elementary Chemistry; Rev. Joseph M. Neri, S. J., Professor of Analytical Chemistry and Mineralogy; Rev. F. Veyret, S. J., Professor of Mathematics and Mental Philosophy; Rev. E. Young, S. J., Professor of English Literature aud Arithmetic—Chaplain. Rev. S. Traverso, S. J., Professor of Ancient Languages and French; Rev. E. M. Nattini, S. J., Mr. B. Mahon, Mr. D. O'Counell, Professors of English aud Elocution; Mr. P. A. Barcelo, S. J., Professor of Mathematics and Spanish; Rev. G. Mengarini, S. J., Treasurer; Rev. F. Prelato, S. J., Assistant Treasurer; Rev. A. Guerrieri, S. J., Disciplinarian; Mr. J. Pascal, Professor of Mathematics, Book-Keeping, German, Drawing and Violin; Mr. J. Lawrie, Professor of Piano; Mr. E. Vile, Assistant Professor of Piano; Mr. L. Fernandez, Professor of Penmanship; Dr. H. H. Warhurton, Atteudiug Physician; Mr. J. Boggio, S. J., Infirmarian. There are moreover five Assistant Disciplinarians and Teachers. Attendance—boarders, 162; day scholars, 29; total, 191. Terms for boarding, lodging, tuition, washing and mending of lineu, school stationery, viz., paper, ink and pens; medical attendance and medicines, fuel, light, baths, etc., per session of teu months, $350. If more than two hrothers enter the College, each additioual one pays only $200 per session.

University of the Pacific, (Methodist) for hoth sexes, Santa Clara. Rev. T. H. Sinex, D. D., President; Milus H. Gay, A. M., Ancient Languages; L. H. Van Schaick, English Department; L. J. Megerie, Book-keeping and Grammar. Attendance—males, 67, females, 79; total, 146. Yearly expense per pupil $320. Library, 1,200 volumes.

Female Collegiate Institute, (Methodist Episcopal), Sauta Clara. Rev. D. Tuthill, Principal; Mrs. C. V. W. Tuthill, Preceptress; Miss H. S. De Lamater, French and German; Miss L. N. Widney, English hranches; H. M. Gay, Ancieut Languages; George M. Shuck, Music. Attendance, 79; expense per pupil $300 to $340.

Academy of the Sisters of Notre Dame, for youug ladies, San José. This is the parent establishment of a numbèr of similar institutious in differeut parts of the State. There is a hranch at Santa Clara.

The Sisters of Charity have educatioual institutions at San Juan, and Santa Cruz; also on Market street in San Francisco.

San Jose Institute, at San José, for hoys and girls. George E. Houghton, Principal.

Boarding and Day School, at Watsonville. Prof. William Van Doren, Principal.

Boarding School at Santa Cruz. Mr. Pioda, Principal.

High School, at Los Angeles. Dr. T. H. Rose, Principal.

A seminary is in contemplation at San Buenaventura.

St. Vincent College, at Los Angeles. Rev. Thomas McGill, President. Attendance, 120.

Institution of the Christian Brothers, at Santa Inez, Santa Barhara County. Brothers Doven and Nolan, Principals.

Franciscan College, in the town of Santa Barhara, (Order of St. Francis). B. Sheehan, President. Attendance, ahout 65.

NORTH OF THE BAY.

Pacific Methodist College, (for both sexes), Vacaville. Rev. J. R. Thomas, D.D., L.L.D., President, Moral and Intellectual Science; Charles S. Smith, Mathematics; Rev. John C. Simmons, English Literature; F. A. Thomas, A. M., M. D., Latin and Greek; J. M. Kirkpatrick, Primary Department; Miss Mary E. Thomas, Assistant; Miss Alice Ridge, Music. Attendance, 209. Tuition per annum, $30 to $80; board $5 per week.

Sonoma College School, (Cumberland Presbyterian), Sonoma. Rev. W. N. Cunningham, Principal; Z. J. McConnell, Assistant; Miss E. A. Abbott, Assistant. Attendance, 75.

Petaluma College School, (Baptist). Mark Bailey, Principal. Attendance, 83. Yearly expense per pupil, $300 to $380.

Institution at Petaluma, under the care of Prof. E. S. Lippitt.

Napa Collegiate Institute. Professor W. S. Turner, Principal. Attendance, 125. Cost per student, $300 to $400.

Young Ladies' Institute, at Napa, under the care of Miss McDonald and sister.

Benicia Young Ladies Seminary, formerly under the charge of Miss Atkins; now in the hands of Rev. C. T. Mills and Mrs. Mills.

Academy of the Dominican Sisters, at Benicia. Sister Maria Thomas Golden, Principal.

Alexander Academy, at Healdshurg. Rev. Mr. Wells, Principal.

IN THE VALLEY OF CALIFORNIA.

Hesperian College School, ("Disciples or Christian Church"), at Woodland, Yolo County. J. M. Martin, A. M., Principal; G. N. Freeman, Principal Preparatory Department; Professor Hollo, Music Department. Attendance, 120.

Sacramento Young Ladies' Institute. Rev. W. S. Hunt, Principal.

Select School for Girls, at Sacramento. Rev. Mr. Perry, Principal.

Marysville Young Ladies' Seminary, Mrs. Poston's.

Sisters of Notre Dame, at Marysville. Ditto at Grass Valley.

Stockton Seminary, for both sexes, (Episcopal). Formerly in charge of Prof. Van. Doren.

Visalia Select Seminary. Prof. S. G. Creighton, Principal; Prof. Thomas Howell, Assistant. Attendance, 90.

We shall extend this article next week, mentioning schools in Oregon, Mexico, etc.

NEW INCORPORATIONS.—Articles of incorporation have been recently filed in the County Clerk's office in this city as follows:

MECHANICS' REAL ESTATE AND BUILDING ASSOCIATION.—San Francisco. Dec. 11th. Capital stock, $50,000; 100 shares, $500 each. Trustees: A. J. McLellan, W. Irvine, James Best, Matthew Rodgers, R. A. Roscoe, James Lyons, T. F. Kenney, Johu Doyle, A. S. Dunlavy, John Sparro, and J. Britton.

ORR MINING CO.—Tuolumne County. Dec. 11th. Capital stock, $200,000; 2,000 shares, $100 each. Trustees: Camilo Martin, W. Fishel, R. C. Atkins, P. G. Venard, and R. Wegener.

AURORA CONSOLIDATED SILVER MINING CO.—White Pine, Nevada. Dec. 11th. Capital stock, $1,600,000; 16,000 shares, $100 each. Trnstees: Frank Livingston, Thomas Bell, J. W. Crawford, J. D. Fry and Frank Drake.

VENUS GOLD AND SILVER MINING CO. Butte County. Dec. 15th. Capital stock, $500,000; 5,000 shares, $100 each. Trustees: Ebenzer H. Shaw, W. Barling, and James W. Barling.

CALIFORNIA WHITE PINE MINING CO.—White Pine, Nevada. Dec. 15th. Capital stock, $1,500,000; shares of $500 each. Trustees: Lafayette Maynard, Isaac Freidlander, Lester L. Robinson, Charles J. Brenham, D. W. Connolly, John S. Hager, and Lloyd Tevis.

TEACHERS' STATE UNIVERSITY HOMESTEAD.—San Francisco. Dec. 15th. Trustees: O. P. Fitzgerald, Alfred Stehhins, A. L. Mann, Hubert Burgess, George H. Burgess, James Stratton, and J. F. Bowman.

PACIFIC LIQUOR REFINERY.—San Francisco. Dec. 15th. Capital stock, $500,000; 1,000 shares, $500 each. Trustees: John Hewston, Jr., Chas. R. Peters, H. F. Teschmacher, J. T. Boyd, George Parker, John M. Duncan, and Wm. Harney.

THE success of the first masquerade and fancy dress hall of the Mercantile Library Association, and the general desire of the participants on that occasion, have induced the managers to announce a second, which will take place on Tuesday evening, December 22d. Every care has been taken to make the occasion as pleasant and the party as select as possible.

ATTENTION is called to the advertisement of Leopold Kuh, assayer and metallurgist (late of Virgiaia City) in another column. Mr. Kuh is the successor of Kustel in the office opposite the Mint.

SULPHURETS and rich Rebellious Ores are wanted in this city, by ROBT. TAYLOR & CO. See advertisement in another column. 17v17tf

RETURNED.—Dr J. H. Paine, Dentist, Wadsworth House, No. 225 Bush street, between the Occidental and Cosmopolitan Hotels, San Francisco. 21v17-4m

MR. MOWRY, lately a clerk in a hotel at Colfax, is requested to call at the office of the MINING AND SCIENTIFIC PRESS, No. 414 Clay street, below Sansome, San Francisco.

SAVE YOUR TEETH.—Drs. Jessup & Beers, over Tucker's Jewelry store, are now making a specialty of filling the fangs of dead Teeth, and building up broken crowns with *pure gold*—thus restoring them to their original usefulness and beauty. They are also using Nitrous Oxide for the painless extraction of Teeth, when so desired—the only absolutely safe anæsthetic ever discovered. In breathing it, it acts as a gentle stimulant, without undue excitement,—the sensation produced being truly delightful, the effect upon the lungs healthful, and in its results positively free from all danger. Prepared and administered daily at the Dental Rooms of Messrs. JESSUP & BEERS, corner Montgomery and Sutter streets, San Francisco. 16v16tf

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board.

San Francisco, December 19, 1868.

City Stocks.

The transactions in miscellaneous stocks, since our last similar reference, have been comparatively light; however, the sales in the Board are no criterion for dealings in this description of securities. This is particularly the case with city bonds, of which large transactions are frequently made from private hands. In the Board sales of San Francisco Gas stock were made at $76 50. Ninety five shares of Pacific Tannery and Boot and Shoe Co. stock sold at $60@65 per share. This company paid its usual monthly dividend of 1¼ per cent. on the 15th inst. At the close a few shares of Spring Valley Water stock were sold at $66 per share.

Mining Share Market.

A fair degree of activity pervades the mining share market; however, early in the week it exhibited a downward tendency, but the past few days better prices have been obtained, and, as a general thing, a healthier tone is manifest. The near approach of the holidays does not interfere as much with the market as we anticipated, the aggregate sales being as large as for the past few weeks of more than usual activity. In fact, this rather sudden activity is much greater than a casual observer would be led to believe, and the assertion of one of our most prominent brokers, that he did as large a business during the past fortnight as during any like period since the organization of the Board, may be taken as evidence of this fact. The very fair discoveries in several of the claims on the Comstock lode and the flattering prospects of others has imparted considerable buoyancy to the market, inducing increased operations on the part of speculators.

Trade, in nearly all departments, is unusually active, being continued farther in the year, on account of the facilities for commmnication growing ont of the existing dryness. Our capitalists are rapidly coming to the conviction that a more extensive net-work of railroads will soon be reqnired to bring to market the prodnce of our many extensive and fertile valleys, and open up the resources of large and valnable tracts now nnoccupied. We must also have more direct and rapid intercourse with our rich mining regions, many of them being so remote from this market as to create large and unnecessary expense in placing their prodncts at the point of consumption.

Empire—is quotable at $110@115. The annual meeting of the stockholders of this company was held on the 16th inst. From the Secretary's report we take the following: $215,055 in hullion was obtained from 10,724 tons of ore, being eqnal to $20 05 per ton. Last year the bullion account amonnted to $258,400, and 5,770 tons of ore sold, realizing $36,183. The expenses for mill acconnt the past year amonnted to $119,925, and for mine $72,779. Liabilities above assets, Nov. 30, 1868, $13,679. The expense of sinking the Imperial-Empire shaft has been quite heavy npon this as well as the Imperial company, the depth attained to date being about 1,100 feet; and it is confidently believed that very satisfactory resnlts will follow drifting from these lower levels. The following are the officers for the ensuing year: President, Robert Sherwood; Secretary, Geo. R. Spinney; Trnstees, Charles Mayne, Robert Sherwood, John A. Stanley, W. G. Wayman, and A. E. Head.

Ophir—was in the market at $40@38, and at the close realized $32 50. The annnal meeting of this company was held on the 16th inst. The receipts for the fiscal year ending with date of meeting amomted to $178,691, of which $149,-065 was from assessments, $14,958 from tolls, and only $3,558 from the mine. The expenses during the past year have been principally npon the new shaft, amounting to about $130,000. The year closed with a cash balance on hand of $24,806. From 1860 to the close of 1867 the hullion receipts amonnted to $5,286,639, from which were dishursed $1,394,400 in dividends. The assessments required dnring the same period aggregated $425,600. The following officers were elected to serve the ensuing year: John Gillig, President; Vice-President, Lewis Gerstle; Secretary, Edward F. Stone; Trustees, John Gillig, H. F. Cntter, A. Henne, Lewis Gerstle, S. W. Glazier, W. J. McDonald and James Denman.

Imperial—advanced from $110 to $124, receded to $114, and closed at $117. Up to the 17th they received $7,284 10 in bullion from the mine. A letter of the 15th inst. states that they have commenced sinkiug on the streak found on the east clay on the 900 level, and have encountered very little water so far. The dump, at this date, contained about 300 tons of ore. This company levied an assessmeut of $25 per share on the 15th inst.

Cholar-Potosi—fluctuated within a range of $161 50 and $170, closing at $170. Extracted 1,392 tons of ore during the week ending December 11th, against 1,237 tons the previous week. Very little change noticeable in the stopes durihg the week, except a slight improvement in the ore.

Yellow Jacket—was in slight request, advancing from $1,339 to $1,300, then selling at $1,347 50, and at the close realizing $1,305. The *Safeguard* has the following: "No ore has been taken from the 900 level dnring the week ending December 12th; in fact, the level has been flooded with water most of the time, owing to the pump having been stopped for repairs, the 50-feet snmp not being of sufficient capacity to hold the drainage for the time of snspension. The east drift, 900 level, however, is forhidden ground to ontsiders. The north drift, 800 level, is now being pnshed to make the connection with the old north mine. The north body of ore eut by this drift held well in qnality, and the width was well maintained. In addition to this, some good ore has been strnck in this drift still further to the north, the extent of which has not yet been ascertained, but from the locality in which it is fonnd the discovery is thought to be of great importance."

Hale & Noscross—improved from $79 to $84, and at the close sold at $82. Remarkable progress has been made in the west drift from the 1,100 level, and it is believed that favorable developments will soon be made, as the workmen are thonght to be near the ledge. Latterly all information concerning this mine has been kept very quiet. An assessment of $5 per share was levied on the 12th instant.

Kentuck—ruled at $243@255, and closed at $250. It is believed that the oro now in sight will enable this eompany to declare dividends for many months to come....Crown Point was in the market to a considerable extent, selling at $51@54 50, and closing at $50.....Savage sold largely nnder an advance, improving from $73 25 to $89 50, and closing at $84.

Amador (Cal.)—sold at $232 50@238. A dividend of $6 per share is payable to-day (the 19th). The reeeipts for December account have been $13,000.....Eureka (Cal.) is quoted at $210. A dividend of $7 50 per share is payable on and after to-day....Bullion sold at $17 50@19. Work in the lowest levels is carried on without interruption. An assessment—the 23d—of $10 per share was levied on the 7th instant.

Alpha—improved from $41 to $46 50, and closed at $45. The incline progresses very favorably, the bottom being now thirty-two feet below the 940 level. They are averaging three feet per day, and no water is encountered except that which comes up with the grounid....Overman was tolerably active, opening at $49, then selling at $75 50@83 50, assessment of $20 delinqnent, and closing at $82. On the 11th instant, sent forward $7,952 in bullion. Nothing new concerning the mine.

The aggregate sales in tho Board since Satnrday last have been as follows: Regular sessions, $1,532,522; open sessions, $434,176—total, $1,-966,698.

Messrs. P. H. Drake & Co., proprietors of the Plantation Bitters, are said to be the largest importers of St. Croix Rum and Calisaya Bark in America. The Rum imported by this firm is all nsed in the preparation of their Bitters, and is manufactured under the immediate supervision of one of their agents npon leased plantations on the Island of St. Thomas. Over nine thonsand pnncheons—about one million gallons—is nsed annually for their hitters alone. The Calisaya Bark is all imported from Brazil, and is also gathered and selected by the natives, nnder the supervision of an agent sent out for that purpose. The cures prodnced by these Bitters are wonderful.

The reason why Muller's Spectacles meet with snch nnbonnded success, is owing to his knowledge of and ability to fit the glasses to the various conditions of the eye. Try him; 205 Montgomery street.

Concerts.—Those mnsical entertainments at Woodward's Gardens on Thursday and Snnday afternoons, are deservedly popular. There is no better place to spend an hour pleasantly and profitably.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE.
Alpha, G. H., Storey co., Dec. 5, $50	Jan. 6—	—
Amador Co., dividend, $6 per share	Payable Dec. 19, 1868	
Adriatic, Storey co.	Special Meeting, Jan. 4	
Alpha, Storey co., Nev., Dec. 3, $10	Jan. 5—	Jan. 25
Alamo, Lyon co., Nev., Nov. 25, 35c	Dec. 31—	Jan. 30*
Bullion, Aug. 19, $10	Payable immediately	
Bacon, Storey co., Nev., div.	Payable June 19, 1868	
Belcher, Storey co., Nev.	Annual Meeting, Dec. 21	
Cherokee Flat, Butte co., Dec. 9, $5	Jan. 11—	Jan. 26
Chalk Mt. B. G. Nevada co.	Special Meeting, Jan. 7	
Chiplopena, Mexico, Nov. 6, $2.50	Dec. 11—	Dec. 28*
Chollar-Potosi, div., $25	Payable Oct. 15, 1867	
Crown Point, dividend, $7.50	Payable Sept. 12, 1868	
Colorado, Arizona	Annual Meeting Dec. 28*	
Diamond cop., Del Norte co., Oct. 28, $2	Nov. 10—Dec 28*	
Folsom St & Ft. R. R., Nov. 13, $5	Dec. 15—	Dec 26
Eureka, div. $5	Payable Nov. 20, 1868	
Empire M. & M., Nev., dividend $6	Payable May 15, 1867	
Gould & Curry, Storey co., Nev.	Annual Meeting Dec 28	
Gould & Curry, Storey co., Nev., Dec. 5, $15	Jan. 9—Jan. 29	
Gould & Curry, div., $7.50	Payable May 15, 1867	
Gold Hill Q M & M—dividend, $7 50	Payable July 13, 1868	
Golden Rule, Tuolumne co. div. 50c ₱ sh	Payable Aug. 23*	
Great Central, Arizona, $2.50	Nov. 1—Dec. 19*	
Hale & Norcross, Storey co., Dec. 12, $5	Jan. 16—Feb. 6	
Hale & Norcross, div. $125	Sept. 16, 1867	
Hope Gravel, Nevada co, Nov 18, $1	Dec. 22—Jan. 11*	
Hanscom cop., Del Norte co.	Annual Meetin., Dec. 21	
Imperial, Storey co., Dec. 15, $25	Jan. 18—Feb. 4	
Imperial, Storey co, Nev., div.	Payable June 20, 1868	
Kentuck, div., $30 per share	Payable Dec. 10, 1868	
Morning Star, Alpine co., Dec. 9, $2 50	Jan. 11—Feb. 1	
Maxwell, Amador co., Nov. 13, $2.50	Dec. 14—Jan. 5	
North Star, dividend, $5	Payable Aug. 15, 1868	
Nevada County M. Co., $1	Nov. 18—Dec. 19*	
Overman Storey co., Nov. 13, $20	Dec. 16—Jan. 4	
Ophir, Storey co., Nev., Nov. 9, $3	Dec. 12—Jan. 2	
Oriental, Sierra co., Nov. 9, $2	Dec. 14—Dec. 30	
Pacific Unassessable, div.	Payable June 18, 1868	
Rising Star, Idaho, Nov. 16, $10	January 4—Jan. 30	
Santiago, Silver City, dividend, $2 50	Payable Dec 19, 1868	
S. F. & Castle Dome, Arizona, Nov. 25, 3c	Dec. 28—Jan. 12*	
Senator, Storey co., Nev., Nov. 2, 50c	Dec. 4—Dec. 24*	
Savage, Virginia, Nev, dividend, $4	Payable Nov. 12, 1868	
Sand Spring Salt, dividend $1	Payable June 5, 1868	
Sierra Nevada, Nev., Nov. 16, $12.5	Dec. 29—Jan. 5	
U. S. Grant, Nevada co., Nov. 9, 50c	Dec. 15—Jan. 2*	
Virginia & O. H Water Co.	Dividend, payable Nov. 20, 1868	
Yellow Jacket, div., $300	Payable Nov. 10, 1868	

Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. Stock and Exchange Board.

Friday Evening, Dec. 18, 1868.

Miscellaneous Stocks.	Bid.	Asked.
United States Bonds, 5 20s, 1865, '67, '68	$ 81	82
United States Bonds, 5-20s, 1864	80	81
United States Bonds, 5-20s, 1862	81	82
Legal Tender Notes	73½	74
California State Bonds, 7s, 1857	95	95
San Francisco Bonds, 10s, 1851	par & int.	
San Francisco City Bonds, 6s, 1855	—	—
San Francisco City and County Bonds, 6s, 1858	85	87½
San Francisco School Bonds, 10s, 1860	100	—
San Francisco School Bonds, 10s, 1861	par & int.	
San Francisco City and Co. Sch'l B'ds, 7s, 1866	90	—
San Francisco City and Co. Bonds, 7s, 1862	87½	89
San Francisco City and Co. Bonds, 7s, 1864	87½	89
San Francisco City and Co. Bonds, 7s, 1865	87½	89
San Francisco City and Co. Judg. Bds. 7s, 1863	87½	89
San Francisco City and Co. Judg. Bds, 7s, 1864	87½	89
Sacramento City Bonds	24	25
Sacramento County Bonds, 6s	70	78
Marysville Bonds, 10s	75	80
Stockton City Bonds	60	70
Yuba County Bonds, 8s	77	79
Santa Clara County Bonds, 7s	75	77
Butte County Bonds, 10s, 1860	70	75
San Mateo County Bonds, 7s	75	80
California Steam Navigation Co	52½	64
Spring Valley Water Co	65¼	65¾
State Telegraph Co	26	27½
Gas Companies.		
San Francisco Gas Co	76	—
Sacramento Gas Co	—	73¾
Railroads.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	70	—
Central Railroad	49	62
North Beach and Mission Railroad	57	70
Front Street, Mission and Ocean Railroad	11	12
Banking Institutions.		
Pacific Bank	97½	100
The Bank of California	157	158
California, Loan and Savings Society	—	—
Insurance Companies.		
Firemans' Fund Insurance Co	92½	94
Pacific Insurance Co	124	125
San Francisco Insurance Co	—	105
Merchants' Mutual Marine Insurance Co	500	525
California Insurance Co	1300	1400
Union Insurance Co	93	93
Home Mutual Insurance Co	19¼	20
Occidental Insurance Co	72	—
National Insurance Co	72	—
Builders' Insurance Co	—	—
Mining Stocks—Washoe District.		
Alpha	45	45½
Baltimore American	....	....
Belcher	175	180
Bullion, C. &	—	120
Crown Point	51	52
Cole (Va.)	11	13
Confidence	35	38
Consolidated Virginia	10	11
Chollar-Potosi	169	170
Dancy	4¼	4½
Exchequer	24½	25
Empire Mill and Mining Co	170	171½
Gould & Curry	111	111½
Gold Hill Quartz	65	100
Hale & Norcross	81½	82
Imperial	117	118
Kentuck	249	269
Julia	3½	4
Justice and Independent	8	9
Lady Bryan	20	20½
North American	2	2½
Ophir	32	33½
Overman	81	82
Segregated Belcher	8	8½
Savage	84	84½
Sierra Nevada	—	—
Yellow Jacket	1305	1310
Union	—	—
United States	—	—
Miscellaneous Mining Stocks.		
Amador (California)	238	240
North Star (California)	....	....
Eureka (California)	210	—
De Soto (Humboldt)	—	2
Golden Rule, California	10	20

San Francisco Market Rates.

Wholesale Prices.

Friday, Dec. 18, 1868.

Flour, Extra, ₱ bbl	$5 25 @ $5 75
Do. Superfine	4 25 @ 4 75
Corn Meal, ₱ 100 lbs	3 25 @ 3 50
Wheat, ₱ 100 lbs	1 50 @ 1 90
Oats, ₱ 100 lbs	2 00 @ 2 25
Barley, ₱ 100 lbs	2 05 @ 2 40
Beans, ₱ 100 lbs	3 00 @ 3 50
Potatoes, ₱ 100 lbs	75 @ 1 10
Hay, ₱ ton	14 00 @ 22 50
Live Oak Wood, ₱ cord	9 00 @ 10 00
Beef, extra, dressed, ₱ lb	8 @ 10
Sheep, on foot	3 00 @ 3 25
Hogs, on foot, ₱ lb	4½ @ 5
Hogs, dressed, ₱ lb	7 @ 8
Groceries, etc.	
Sugar, crushed, ₱ lb	— @ 17
Do. China	10 @ 12½
Coffee, Costa Rica, ₱ lb	17 @ 17½
Do. Rio	— @ 17
Tea, Japan, ₱ lb	75 @ 90
Do Green	60 @ 1 25
Hawaiian Rice, ₱ lb	9 @ 10
China Rice, ₱ lb	6 @ 7
Coal Oil, ₱ gallon	45 @ 54
Candles, ₱ lb	15 @ 18
Ranch Butter, ₱ lb	60 @ 75
Isthmus Butter, ₱ lb	40 @ 45
Cheese, California, ₱ lb	15 @ 21
Eggs, ₱ dozen	50 @ 55
Lard, ₱ lb	13 @ 14
Shoulders, ₱ lb	14 @ 18
Hams, ₱ lb	6 @ 8
Retail Prices.	
Butter, California, fresh, ₱ lb	80 @ 90
do. pickled, ₱ lb	30 @ 40
do. Oregon, ₱ lb	20 @ 25
do. New York, ₱ lb	35 @ 45
Cheese, ₱ lb	20 @ 25
Lard, ₱ lb	25 @ 30
Eggs, ₱ dozen	65 @ 75
Hams and Bacon, ₱ lb	20 @ 25
Cranberries, ₱ gallon	— @ 1 00
Potatoes, ₱ lb	1½ @ 2
Potatoes, Sweet, ₱ lb	3 @ —
Tomatoes, ₱ lb	3 @ —
Onions, ₱ lb	3 @ —
Apples, No. 1, ₱ lb	4 @ 5
Pears, Table, ₱ lb	5 @ 7
Plums, dried, ₱ lb	11 @ 13
Peaches, dried, ₱ lb	— @ —
Oranges, ₱ dozen	75 @ 1 00
Lemons, ₱ dozen	1 00 @ 1 50
Chickens, apiece	50 @ 75
Turkeys, ₱ lb	20 @ 25
Soap, Pale and C. O	7 @ 12
Soap, Castile, ₱ lb	— @ 20

San Francisco Metal Market.

Prices for Invoices.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

Friday Dec. 18, 1868.

Iron.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1¼@13¼c ₱ lb; Plate, 1¼c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2½@ ₱ lb.

Scotch and English Pig Iron ₱ ton	$35 00 @ $36 00
White Pig ₱ ton	— @ 36 00
Refined Bar, bad assortment, ₱ lb	— 03 @ — —
Refined Bar, good assortment, ₱ lb	— 04 @ — —
Boiler, No. 1 to 4	— 04¼ @ — —
Plate, No. 5 to 9	— @ — 04¼
Sheet, No. 10 to 13	— 04½ @ — 6
Sheet, No. 14 to 20	— 05 @ — 5¾
Sheet, No. 24 to 27	— 05 @ — 6¼
Copper.—Duty: Sheathing, 3¼c ₱ lb; Pig and Bar, 2½c ₱ lb	
Sheathing, ₱ lb	— @ — 26
Sheathing, Yellow	— 20 @ — 21
Sheathing, Old Yellow	— 10 @ — 11
Bolts	— 21 @ — 22
Composition Nails	— 21 @ — 22
Tin Plates.—Duty: 25 ₱ cent. ad valorem.	
Plates, Charcoal, 1X, ₱ box	12 00 @ — —
Plates, I C Charcoal	— @ 11 00
Roofing Plates	10 00 @ 10 50
Banca Tin, Slabs, ₱ lb	— @ 30
Steel.—English Cast Steel, ₱ lb	— @ 18
Quicksilver.—₱ lb	— 55 @ — 60
Lead.—Pig, ₱ lb	— 7½ @ — 8
Sheet	— 10 @ — —
Pipe	— 11 @ — —
Bar	— 9 @ — 9½
Zinc—Sheets, ₱ lb	— @ — 9½
Borax.—California, ₱ lb	— 20 @ — 23

New York Metal Market.

[Corrected weekly from the American Artisan.]

[New York City, Nov. 14, 1863.

Iron.	
Pig, Scotch, No. 1 (cash) ₱ ton	$42 50 @ $43 00
do. American, No. 1 (cash)	41 00 @ 43 00
do. do. No. 2	37 50 @ 39 00
Swedish, ordinary sizes	155 00 @ 165 00
Common	90 00 @ 95 00
Refined	100 00 @ 120 00
Rods	105 00 @ 165 00
Horse-shoe	125 00 @ —
Hoops	125 00 @ 130 00
Scroll	135 00 @ 175 00
Nail rods, ₱ lb	— 9½ @ — 10
Spring	— 10 @ — —
Tire	— 10¾ @ — —
Steel.	
Bars, best cast, warranted, ₱ lb	— 25 @ — —
Sheet, do	— 23 @ — —
do. second quality	— 20 @ — —
do third quality	— 17 @ — —
Saw-plates, circular	— 30 @ — —
Boulloise, warranted	— 23 @ — —
Single do	— 20 @ — —
Montague & Co. (cast bars)	— 19 @ — —
Machinery, round	— 16 @ — —
German, best	— 11½ @ — —
do. goat	— 11½ @ — —
do. eagle	— 13 @ — —
Blister, warranted	— 17 @ — —
do. common	— 13 @ — —
Jessop & Sons', common	— 17 @ — —
Double refined	— 26½ @ — —
Stone-axe shapes	— 26½ @ — —
Tin.	
Tin-plate, prime charcoal, per box	9 00 @ 15 75
Banca, ₱ lb	— 39 @ — 40
Straits	— 35 @ — 36
English	— 35 @ — 36
Copper.	
Sheathing, ₱ lb	— 31 @ — 32
Sheet	— 36 @ — —
Bottoms	— 40 @ — —
Lead.	
American, ₱ 100 lbs	9 60 @ 9 75
German	10 00 @ — —
Bar	10 00 @ 10 25
Pipe and Sheet	10 50 @ 11 00
Zinc.	
Musschnan and American, ₱ lb	12 00 @ 12 50
Brass.	
High, various widths, ₱ lb	— 46 @ — 52
Platers'	— 51 @ — 69
Sheet	— 48 @ — 55
do. circular	— 61 @ — 63
Low	— 50 @ — 56
Wire	— 47 @ 1 15
Sundries.	
Solder, ₱ lb	— 20 @ — 22
Antimony	— 17 @ — 18
Spelter	— 9 @ — 10
Copper, old	— 17 @ — 19
Brass, old	— 13 @ — 14
Nails, roofing, ₱ keg	9 00 @ — —
do. do. tinned	16 00 @ — —

A new Mint is about to be built at the Dalles, Oregon, after plans made by Col. J. F. Morse, Department Architect for the coast. The building will be one of considerable size and fine appearance, of two stories and a full basement. The size on the ground is 50½x90 feet. The superstructure will be crowned by a snitable cupola, fourteen feet in diameter, twenty-one feet above the roof and seventy-two feet above the ground.

Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County.

Chronicle, Dec. 5th: We have been shown a small lot of bullion, nearly three pounds, the result of the working of about three tons of ore from the Gould & Curry claim —one of the Pittsburg Co's claims near this town. The ledge was struck last winter, but this is the first lot of the ore that has been worked here. This bullion contains some gold, and the amalgamator is confident that it will pay well to work at the Co's mill. Men will be immediately set to work getting out ore. The bullion mentioned above will be molded in silver brick style, and forwarded to the company at Pittsburg, Pa.

The Pennsylvania tunnel this week cut a spur of very rich quartz.

On Tuesday last, Supt. Slaven shipped to San Francisco 1,492 ounces of silver bullion from the IXL claim.

The President of the Morning Star Co. left for San Francisco this morning, with 1,600 ounces of bullion, being a portion of the proceeds of the Morning Star ore worked at the Pioneer mill, at Markleeville, by Knstel's chlorination process, which has proved a perfect success in working the rebellious ores of this company.

The tunnel in the Morning Star mine has been run a distance of about 1,600 feet. The rich, black ore was struck at a distance of between 800 and 900 feet. At this point a spacious chamber has been made by the removal of the ore. From this chamber an incline has been sunk 110 feet, and a heavy body of rich ore struck.

Markleeville *Miner*, Dec. 5th: An old miner residing in Alpine assures us that he has a claim, from which, without further opening, he can get out 20 tons a day of rock, which will pay by mill process $30 per ton, at a cost of not over $5 per ton, delivered at any mill not over a mile from the mouth of Monitor Creek, including the mining and hauling to mill.

Butte County.

Transcript, (Nev.) Dec. 3d: The quartz mill at Yankee Hill, Butte County, was burned on the 20th inst. Insured for $8,000.

Kern County.

Havilah *Courier*, Dec. 1st: McKeadney had a run of four days last week on 16 tons of rock from the Delphi, which yielded $2,950 in gold. The mine seems to increase in richness as it is further developed.

Los Angeles County.

Los Angeles *News*, Dec. 8th: The mines of Soledad have been attracting attention for some time. The mill of Polk & Kabler has tested thoroughly the richness of the Soledad mines.

Star, Nov. 28th: Work is being pushed ahead rapidly on the Temescal tin mines, and a great body of very rich ore has been laid bare in the Tahalca claim.

Mariposa County.

Mail, Dec. 11th: The Mariposa Co. has nearly completed the new quartz mill erected at the Benton Mills, which will crush quartz rock under the Ryerson process. The old mill, at the same place, will also be repaired.

E. O. Darling, of Bear Valley, has purchased the interest of W. W. Kelton, in the rich vein known as the Maggie Russell, in behalf of some San Francisco capitalist. The vein is said to be immensely rich, and will no doubt, when the preparations for working the same are perfected, give employment to a great number of hands.

Nevada County.

Grass Valley *Union*, Dec. 9th: We have no especial big strikes to chronicle, but we note that steady work has been going on since our last review of the mining situation. On Massachusetts Hill and New York Hill there are two mines which are paying their way with, probably, something ahead. A. B. Brady, on the New York Hill ledge, is quietly making his mine pay its own way, and has it now in a condition which promises a dividend ahead. He took hold of an old and caved-in shaft, put up a pump and re-rigged the hoisting works, and is now down about 300 feet on the ledge. We yesterday saw some splendid rock from that mine. The Shanghai mine, near the old Rocky Bar, has been, for a long time, paying well. The ledge is small but very rich, abounding in specimens. The hoisting now done is by horse-power, with the owners themselves as underground miners. We hear it stated that the owners of this mine, not long since, bought it for a small amount, after it was refused by many who were posted on our mines, and with no capital, except their own knowledge of conducting such operations, and their own muscle, they commenced work. The North Star has been taking out a splendid quality of rock from the Weimar Hill part of its claims. This is mined at comparatively little expense, at present. A friend suggested to us the other day that as hydraulic diggings, Ophir Hill would pay right down to bedrock.

The Idaho continues to yield an excellent quality of rock, the new mill works admirably, and the mine may now be regarded as among the best in this vicinity.

Dec. 10th: The Empire Co., on Ophir Hill, are taking out, and have been so doing for several days past, extremely rich rock.

A very large water-wheel went through town yesterday afternoon, on its way to the Larimer mill, on Wolf Creek. The mill is being put in order for the next crushing from the Bay State ledge.

Numerous teams have been hauling quartz through the town for several days past. The rock comes from the northern portion of the district, and goes to the custom mills below town.

Grass Valley *National*, Dec. 8th: James K. Byrne and others have located 700 feet on the Eagle ledge. This ledge is located 130 feet west of the John Bright ledge, Grass Valley township.

Oct. 10th: Frank Morse has purchased the water-wheel of the old Rough and Ready mill, and had it hauled down to Larimer's mill yesterday, where it will be put up immediately, so that his next crushing can be done within a few yards from the mouth of the shaft.

James Meagher & Co. have located 800 feet of ground on the south side of the North Fork of Poor Man's Creek, Eureka township. The claim breasts on the creek and runs back to the center of the hill.

Gazette, Dec. 8th: Placer mining at Diamond Creek is nearly suspended for the winter, but considerable is now being done in quartz mining. Pease, Dooling & Co. have located a ledge recently discovered, which presents more favorable indications than any other in that region. It is over two feet in width, and prospects remarkably rich. They have named it the Pawtucket. The Salathiel Co. have struck good paying ore in their lower level, and have resumed active operations in the mine. The last crushing from the Camanche ledge, of 36 tons, made at the Salathiel mill, yielded $30 a ton. The owners of the Cocomongo and Enterprises ledges are vigorously at work to open their mines. About 75 men are employed on the ledges mentioned above, and have their winters supply of provisions laid in. Diamond Creek bids fair to be a flourishing mining camp next season.

Dec. 10th: Last week a miner on Rush Creek, two miles from Nevada, sunk a shaft on a quartz ledge to the depth of 20 feet, and struck a rich pocket that yielded $22 a pound in a hand mortar.

Dec. 11th: The Cornish mill and mine, two miles below Nevada, on Deer Creek, have been in active operation for months past. The company have a tunnel in 1,400 feet, and the ledge varies from two to five feet in width. They have been taking out and crushing about 200 tons of rock per month, and have an unlimited amount accessible from their tunnel.

Dec. 12th: A gentleman down from Eureka gives us the following particulars: The Erie mill is now crushing rock from the Jim Crack mine. The rock pays well, and the ledge is from 12 to 15 feet wide. The Stacy, Banbury & Co. have had a clean up this week of a quantity of rock worked at Black & Young's mill. From $8,000 to $10,000 in amalgam was the result. The Birchville mill is running constantly on good pay ore from their own ledge. The Jim Mining Co. have just received and placed in operation a new engine, boiler and pump, and are sinking on their claim for a lower level. All of the mills mentioned have laid in a good supply of wood, and will be enabled to prosecute work vigorously all winter. E. Doliver has recently purchased the interest of Oscar Palmer, in the Palmer & Everingham mill, and the new firm have just finished crushing 200 tons of rock from the Iowa ledge.

Virginia *Enterprise*, Dec. 11th: At Perry & Irwin's saloon are to be seen some very fine specimens of cement containing gold, brought from California by Les Blackburn, of this city. They came from the Nebraska mine, French Corral, Nevada County, and some of them are literally studded with fine washed gold. The mine is owned by Henry Poulinet & Co., and is yielding very largely, the cement being crushed in a water-mill owned by the company. With the specimens is a phial containing about $6 worth of gold, taken from two pounds of the cement by washing in a pan.

Transcript, Dec. 13th: Dahle & Co., of the Banker Hill ledge, are putting up a new quartz mill at Rough and Ready. Some of the companies owning claims in this vicinity have resumed work, and are confident that they will make a strike after a while.

The North Bloomfield Gravel Mining Co. have about completed their ditch for conveying water from Little Cañon Creek to North Bloomfield, and have surveyed a route and will immediately construct a ditch from North Bloomfield to Columbia Hill.

Hickey & Co. are running a cut through the bedrock for the purpose of getting sufficient fall for the working of their claims to a greater depth. The miners at Moore's Flat have abundance of water the year round, and are doing well in their claims.

Dec. 15th: A survey for a tunnel 5,000 feet in length, from Missouri Cañon, to tap the rich gravel beds at North Bloomfield, has been completed. This tunnel will be built by Black & Co., and will enable them to work an exceedingly rich range of gravel which has heretofore remained unworked for want of fall. The proposed tunnel will furnish an outlet over 225 feet deeper than has ever yet been obtained from the gravel claims in the vicinity of North Bloomfield. These claims were heretofore washed into Humbug Creek, and yielded good returns from surface washing. By the building of the new tunnel, the old ground will be worked to the bedrock, and an extensive range of new ground opened.

Grass Valley *National*, Dec. 14th: The Grant ledge, below Forest Springs, continues to yield good rock. The owners are putting up a water-wheel for hoisting purposes, and are satisfied that the mine is a lucrative investment.

Hans Roberts picked up a lump of gold, weighing eight ounces, on his diggings, this side of Rough and Ready, on last Saturday morning.

EXCELSIOR.—The *Transcript* says: The Mohawk and Montreal mine of Meadow Lake township, is giving first-rate returns, but on account of the large quantity of sulphurets, a large proportion of the gold is lost by the present system of working. At a recent meeting, the Trustees levied another assessment, and decided to build furnaces and machinery for the purpose of working the sulphurets by the chlorination process. The assays for 60 days past have been from $32 to $682 to the ton, which is sufficient to indicate the value of the ledge. The office of the company is to be removed to San Francisco. Rock from the Independent ledge in this township is being crushed, and gives evidence of richness. A clean up will be had in a few days.

Placer County.

Auburn *Herald*, Dec. 12th: The new 20-stamp mill, on Bald Hill, is now completed, and at work for the past few days. It is said to work finely.

A tunnel has been run on the Fortuna ledge, and a shaft sunk from the tunnel to a depth of 30 feet. The surface rock yields $10 per ton, exclusive of sulphurets. Some of the sulphurets imperfectly cleaned, were tested at Maltman's works, in Nevada County, and yielded $165 per ton.

Sacramento County.

Folsom *Telegraph*, Dec. 12th: The mining dam of the Natoma Water and Mining Co., on the South Fork of the American River, was finished on Friday, December 4th, and the water turned over it. The dam is 300 feet long by 16 feet in hight. The main ditch now receives 2,500 inches of water.

Sierra County.

Downieville *Messenger*, Dec. 12th: The owners of the Morning Star claim at Chip's Flat, have struck good pay in their claims.

Tuolumne County.

Sonora *Democrat*, Dec. 12th: At present, the supply of water at Chinese Camp is limited. The pipe has a capacity of 300 in., and but 150 inches can be obtained. Some claims are being worked and others are being put in readiness. The people of Chinese do not expect any great activity in mining operations until next spring, when a full supply of water will be had.

Yuba County.

Marysville *Appeal*, Dec. 15th: The former President of the Pennsylvania mine writes us as follows, under date of the 14th inst.: The Jefferson Co. is still making expenses, but struggling hard for something better. The Rattlesnake Co. have very good quartz, but their ledge is still not over from eight to ten inches. Two month's work, or an outlay of from $1,200 to $1,500, will decide the fate of this claim. The Pennsylvania Co. has now 16 stamps running, on tolerably good quartz, day and night. The mill is mostly supplied from level No. 9, where a very large body of quartz is still in sight. As to level No. 10, where the ledge is about 15 feet in width, it will require about two weeks more before its rich quartz can be taken out in large quantities. From what I see I have no hesitation to say that the claim is worked judiciously and most economically. I understand that 50 shares of Pennsylvania stock changed hands a few days ago at $18 per share, and that $30 are now asked and $20 offered.

ARIZONA.

Prescott *Miner*, Nov. 28th: We have received two large pieces of sulphuret ore from the Chase mine, near Prescott. The tunnel is now in over 200 feet, the ledge is widening out, and the ore looks splendid. These specimens are composed of grayish white quartz, which contains a great deal of sulphurets, or iron pyrites, said to hold lots of gold. The sulphurets are very small and darker in color than those of the Sterling or Galena.

The news from the Sterling mine continues to be cheering. The mill is grinding away, and chlorination will be tried before long. Two shifts of hands took out recently, in one day, 14 tons of rock. The ledge is very wide. The little 5-stamp mill crushes about seven tons in the 24 hours. A partial clean up has been made, which yielded about $30 to the ton in free gold.

Two men, who, for several months past, have been engaged in placer mining on Black Cañon Creek, arrived in Prescott, Monday last. They are well pleased with the diggings. They washed out about $8 a day to the hand. There is room at Black Cañon for 1,000 miners, and hundreds of bars that will pay as well, if not better, than the one recently worked by this party.

The Vulture mine, at Wickenburg, continues to yield well. At latest dates both mills were running.

COLORADO.

Central City *Herald*, Nov. 25th: Huepeden, Wolters & Co. have bought a new engine, and are going to put it up at once....Brnckner & Scirmer's furnace in Georgetown, is running on Terrible and Equator ore....The Consolidated Gregory Co's new 50-stamper at the month of Four-mile Gulch, Black Hawk, is now completed. It is running steadily on ore from the company's mine. They have an abundance of it to crush....Mr. Hurd's new 20-stamper, at Black Hawk, is doing good service in the reduction of ore from the U. P. R. lode....The Coley lode is producing some very rich ore. A specimen assayed by Mr. Sherman contained $18,907.34 per ton. We have seen some of this ore, and consider it equal to, if not better than any yet found in Colorado. It is a black sulphuret, very brittle, and contains numerous specks of native silver. The Coley is yielding a large quantity of ore which will average over $200 per ton.

We have the following from Granite district: In Colorado Gulch, Tisdell & Co. have been taking out from $12 to $15 per day to the man. Cree & McCannon have done well, taking out from $25 to $35 per day to the man.

California Gulch has paid from $12 to $15 to the man during the past summer. The 5-20 Co. in this gulch have been running their 10-stamp mill for the past few weeks with good results. The Treasury Co. are working the Magenta lode, and have a shaft 73 feet in depth, which is the deepest in the district. They are crushing all the crevice, which is six feet wide, and making it pay $75 and upward per cord. They have a 15-stamp mill. The Yankee Blade lode is down about 46 feet, and has averaged about $200 per cord, in Morrison & Partridge's mill.

The Dowry lode is down 50 feet, has a 3-foot crevice, and has paid well.

Smith & Walley have got an 8-stamp mill ready to run. Hayden has a 9-stamp mill also ready to run.

Denver *News*, Nov. 25th: Prof. Hill has begun building a new smelting and calcining furnace. This will double the capacity of his works, making them equal to the production of $50,000 a month. He does not find the supply of ore sufficient to run two smelting furnaces, although it is too large for one.

Central City *Register*, Nov. 19th: A large amount of digging is going on, on the mountain side, in the vicinity of the U. P. R. It is said that a strong and very rich lode has recently been discovered there.

An assay made at the Register assay office, of a quantity of samples taken from various places in a 3-foot crevice of lode recently discovered by Mr. Zeilor, in Slaughter House Gulch, gave at the rate of $78 in silver per ton, coin value.

We have seen assays of ore from the Pratt lode, one of which shows $59.64 gold, $34.97 silver, and $52.86 copper, making a total of $147.47 per ton; the other shows $83.71 gold, $36.46 silver, with a fair percentage of copper.

Waterman & Phillips, lessees of the Black lode, or a portion of it, are meeting

with fine success. From claim number 2 they are taking a quality of ore for which Prof. Hill pays $345 per ton.

DACOTAH.

Sweetwater *Mines*, Nov. 25th: Six hundred feet of the Young America ledge, in Shoshone district, were sold a short time since in Chicago for $50,000. It is one of the best ledges in the district, and yields exceedingly rich ore.

Two very fine nuggets were recently found in the placer mines on Rock Creek; one weighed $174, and the other $15.

The 20-stamp mill for the Miner's Delight Co., was shipped on Monday last for the mines. If the weather favors them they will soon have it at work, as the building is completed and ready for the machinery.

We have heard of a 10-stamp quartz mill which is to be shipped to Sweetwater soon.

IDAHO.

Owyhee *Avalanche*, Dec. 5th: The Ida Elmore 20-stamp mill, formerly called the Lincoln, has steamed up again, after having been thoroughly renovated and burnished. There are now in the yard about 600 tons of Ida Elmore ore, of a grade which gave the mine its almost world-wide celebrity.

The Walla Walla *Statesman*, speaking of Warren's Camp, says: They have now at work in the camp a 10-stamp mill and a 5-stamp mill. There are also some eight or nine arastras, that are being worked to advantage, although thus far they have experienced great difficulty in saving the gold and silver. As showing the disadvantages under which the miners labor, Mr. B. exhibited to us a button of silver, which was taken from two pans of tailings. This button assayed silver, to the ton, $4,272.27; gold, $248.36; total, $4,520.63. That is to say, after the rock had passed through the arastra and left the mill, it still remained charged with nearly $5,000 to the ton. This rock was taken from the Bullion lead. Within a circle of four miles the Bullion, Martinez, Alder, Hic Jacet, Wm. B. Knox, and Sampson, all distinct ledges, and all rich in either silver or gold are found. Operations may be said to have only fairly commenced at Warren's during the season just closed, and from the developments made it is thought that with another season Warren's will take rank among the most important mining camps in the northern country. All work in the mills is suspended for this season, but a large number of hands will be employed during the winter in getting out rock. Wages are high in the camp, $5 and $6, and at this figure it is only the very best rock that will pay for crushing.

Boise *World*, Dec. 3d: Mr. Thomas Mootry informs us that a new and rich strike has been made in the Gold Hill quartz ledge, on Granite Creek. He exhibited to us several specimens of the rock, and they showed from good to extraordinary richness in gold, and some of them contained rich sulphurets, which revealed a good showing of silver. This strike was made about 50 feet below the surface, on the south side of the main ledge wall, and the ledge is three feet wide. The rich streak, from which the richest gold-quartz specimens were taken, is eight inches wide, and the remaining 28 inches prospect handsomely in silver ore and sulphurets.

Silver City *Tidal Wave*, Nov. 11th: Black's mill, Flint district, will start up to-day or to-morrow on Forest ore; they also have quite a pile of Rising Star rock on the dump, which, with the 300 tons of Forest, will keep them busy for some time to come.

New discoveries have recently been made 15 miles south of Flint, in South Mountain, that present some new characteristics in the way of mineral-bearing rock.

Pickens & Edwards are down upon their ledge, at Cottonwood, 20 feet, and find pay rock still increasing in thickness, and holding its character for richness; they have a nice pile of fine looking rock on the dump in which ruby silver is plainly visible.

MONTANA.

Helena *Post*, Nov. 20th: We learn that snow now covers the German Gulch mines to a depth of two feet; but 40 men are wintering there. The yield from this gulch has been more remunerative than the previous season. It is safe to say that not less than $25,000 have been realized. The Beef Straight ditch, to furnish a sufficient quantity of water for next season, is about half completed, and will prove a great auxiliary in mining in German Gulch.

After having for a long time lain idle, the claims of upper Last Chance Gulch are being energetically worked, and are paying well. The claim of Dempster & Co., just above the cañon, has been recently opened, and is now being worked by means of a whim, and pays from $18 to $25 per day to the hand. The pay streak is about 100 feet in width.

Parties in German Gulch have struck bedrock on third drain ditch, and have found splendid prospects. In McClellan Gulch the claims are paying splendidly, and it promises to be very prosperous this fall.

Nov. 27th: One of the largest transactions in mines which ever transpired in the Territory, took place yesterday in our city, some 700 or 800 feet of the celebrated Park mine having been bought by J. W. Whitlatch.

The Deer Lodge *Independent* says: Prof. Swallow's mill is still at work upon Ballarat ore. The yield far exceeds the Professor's expectations.

Wigwam Gulch is being opened with every prospect of being splendid pay.

NEVADA.

Humboldt.

Unionville *Register*, Dec. 5th: John C. Fall & Co. shipped by Wells, Fargo & Co., from their office in Unionville, during the month of November, $12,605.

Stewart & Co's new mill was started up on Monday last, and he is now pounding away on Arizona ore, which is expected to yield similar returns to that worked in the other mills by Fall & Co. They have not cleaned up yet. The mill works admirably, promising to give entire satisfaction.

Reese River.

No news of importance, other than already published, has been received from White Pine district, during the past week. The excitement seems to be increasing, as many of our exchanges are noticing the departure of large number of citizens daily for the "poor man's paradise." We only hope that it may not turn out in the end, like Black Rock, and many other similar mining excitements,—to many "the poor man's curse."—[Eds. Press.

Austin *Reveille*, Dec. 7th: The Buckeye mine in Summit Cañon, north of the Murphy mine in Ophir Cañon, is producing fine ore. Some 20 tons which were reduced at the Manhattan mill in this city last week gave the average pulp assay of $350 per ton. We learned that more of the same quality of ore was being hauled to the mill.

Four bars of bullion were brought into this city yesterday from the White Pine mill at Hamilton, White Pine.

Dec. 8th: Last evening the stage from Belmont brought into this city seven bars of bullion from Col. Buel's mill, at Belmont.

In a shipment of 16 bars of bullion, valued at $26,057.77, made to-day by Mr. A. A. Curtis, Superintendent of the Manhattan Co., there was a large bar of fine silver valued at $1,935.34.

Dec. 9th: Wines & Co's stage brought into this city this morning, consigned to W. S. Gage & Co., 11 bars of bullion, of the average fineness of .980, and valued at $16,028.99, from the mill of the Centenary Co. in the district of Newark.

Unionville *Register*, Dec. 5th: We were shown a sample of White Pine ore, one day this week, by a man just in from that wonderful region, which bore such striking resemblance to the "black wax" of Isenheck memory that we are at once carried back in fond memory to the scenes of that unfortunate's discomfiture. Who knows, after all, but poor, persecuted Isenheck may have been a scientific cuss who had known in his experience such deposits as that of White Pine, with its fabulous yield of silver, and owing to the striking similarity of the "black wax," had in a moment of inspiration pronounced it the same metallic substance. We would respectfully call the attention of Father Lewis—sometimes called "Old Snarley"—of the Reno Crescent, to this version of the case, and ask him and the little circle of scientific gentlemen who were the ardent friends and faithful followers of poor Isenheck through good and evil report, to have a further investigation made, as it may yet turn out that Black Rock bromides and White Pine sulphurets are one and the same.

Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Virginia *Enterprise*, Dec. 8th: We understand that of late new and very valuable deposits of ore have been found in both the Yellow Jacket and Savage mines. Vast quantities of very rich ore could daily be taken from the latter mine did the owners and wire-pullers see fit to let it come out. It is there, but it appears to suit the plans of those controlling the mine to let it stay there for the present.

The Bonner shaft, Gould & Curry mine, is now down 1,185 ft., at which point a considerable body of quartz (it fills about half the size of the shaft) has been found. This quartz is of a very promising appearance, though it assays but about $5 per ton. At present no work is being done in the bottom of the shaft, as it has been found necessary to put in new timbers in places, and a new pump column and engine will be needed before work can be conveniently done on the vein of quartz which has been found.

Dec. 9th: Sweetapple & Hirsehman are taking out a considerable amount of good milling ore from the old upper levels of the Mexican mine. The Belcher Co. are taking out from 20 to 30 tons per day of milling ore, and expect soon to do much better. The body of ore found at the 940-ft. level of the Alpha some time since, six feet in width, proves not so good as was at first supposed. Sinking 200 ft. deeper is to be prosecuted for something better. An incline is now being sunk from the 1,200-foot level of the Bullion mine, which will be put down 200 ft., making a depth of 1,400 ft. in all on the vein—before stopping to drift. A drift north from the 800-ft. level of the Crown Point has developed a very good body of ore, but it proves to be on the Kentuck ground. The total depth of the Imperial-Empire shaft is at present 1,000 ft., and sinking is still being continued, the rock is soft and good progress is being made.

Dec. 10th: It will require some four weeks to properly repair the main shaft in the Gould & Curry mine and put in their pump, and until this is done nothing will be known of the value of the deposit of quartz lately found in the mine.

Dec. 11th: We understand that the "English mill" on the Truckee river, is now undergoing repairs and will shortly be started up on rock from a mine in Desert district. This mill was built in the best style and at an immense expense.

The Bullion Co. have just received and are now engaged in putting up one of Root's patent blowers, with which to furnish fresh air to the drift which is being run from the bottom of the main incline. The bottom of the incline is still as dry as a bone, with no sign of water coming in from below. There is a small quantity of water soaking into the shaft, but it comes from the upper part of the mine. For 10 days past a strange phenomenon has been observed in the mine, which is the spurting upward of numerous small streams of air. Over the whole bottom of the shaft hundreds of small jets of air are constantly blowing up and with such force as to instantly extinguish a candle if held toward the floor of the shaft. Pockets of water have often been encountered in our mines—why not a pocket or cavern filled with compressed air? The shaft is now some 1,400 ft. deep, and the workmen think they are about breaking into a cavern leading through to China, as the air that comes up from below has somewhat the odor of tea.

Dec. 12th: The Sacramento mine, Cedar Hill, is at present yielding a considerable amount of excellent ore. In working it some astonishingly rich specimens are occasionally met with.

There was shipped from this city during the past week 5,241 lbs. of assayed bullion, valued at $154,643.94.

NEW MEXICO.

Santa Fe *Gazette*, Nov. 14th: At our latest advices from Maxwell's, his quartz mill was in operation and taking out $2,400 per day. At the time of the discovery of this lead last summer, many, very many, were incredulous in regard to the reports that were put forth in reference to its richness and value. We were, however, convinced of our mistake by good and reliable evidence which was furnished at the time. The practical workings of the mill of which we speak, will convince all others of the value of the lead.

OREGON.

The La Grande *Sentinel* asserts that Eagle Creek is the richest quartz district in Oregon.

The Roseburg paper says that the rich surface diggings, known as the Randolph claim, in Coos County, are attracting considerable attention. There are at present three wealthy companies organized and at work with great profit. Streaks of sand have been found, so rich in the precious metal, that one man could take out from $40 to $50 per day.

English Appreciation of Yankee Notions.—The American system of "expressing" language from railway stations to hotels or private houses, is the subject of high praise in the English papers. The *Pall Mall Gazette* states that every traveler in America goes back to England delighted with the plan of affixing brass checks on the trunks; but that no English railway company has, as yet, had the courage to lay aside the paper labels and paste pots now in use.

Distribution and Origin of Gold.—In a recent number of the *Gas-Light Journal*, Prof. W. Wurtz alludes to the conclusions upon this subject which are announced by Murchison in his new edition of Siluria, and demurs to them. We give a portion of his remarks: "It will be found to be now an accepted conclusion among those best informed, that *gold is of no special geological age;* according wholly with the writer's theory of Gold-genesis, promulgated in 1866,—which traces the origin of gold back to the waters of the Prozoic or Primeval Ocean, the precious metal having been held in solution therein by *persulphate of iron*, by virtue of an appreciable solvent action of the latter on metallic gold; a fact which was discovered by him and published as long ago as 1858, and which clearly and simply explains, moreover, the formation of organic matters upon the auriferous persulphate of iron of the ocean (an action coincident with the birth of Life); besides making plain many other things heretofore deemed almost inscrutable mysteries.

The occasional occurrence of eruptive masses and dykes,—both of which are probably, and those which are very doubtfully "igneous,"—in erystalline schists containing auriferous beds and veins, may, in the writer's view, be reasonably regarded as *concomitant local* effects of the same intense chemical agencies which effected the wider and more uniform metamorphic changes, to which are to be attributed the segregation of the *soluble* metallic and other contents from the mass, and their collection and concentration in fissures, forming metalliferous veins. Even if it be maintained that the eruptive masses are altogether of foreign and exotic origin, and even that the *heat* which effected the metamorphic changes throughout the mass was altogether derived from them, it is not apparent how this alone invalidates, or affects in any way the above proposition, or makes it necessary to suppose that the gold and sulphurets came also from the intruded rocks.

Columbia River Crossing of the Puget Sound Railroad.—Two crossings are proposed over the Columbia river, the one at the town of Vancouver, and the other some distance below, at Sandy Island. The Vancouver *Register* thinks a crossing of the river below that town would convert Vancouver into a first class sheep pasture; while, if the line cross at Vancouver and run down the Columbia to Martin's Bluff, Vancouver would be only an obscure way station. What it wants is that the road shall cross at Vancouver and run out directly across the country to Olympia. That paper says: Mr. Brooks, Chief Engineer, with his surveying party, has just passed through town, and are making as rapidly as possible for Lewis river, in a straight line for Puget Sound. We are informed that it is his intention to halt at Lewis river and run back to Columbia river, at a point near the mouth of the Washougal. The suggestion has been made that a better point to cross the Columbia river than this can be found at Sandy Island, and thence to Lewis river by the way of the Lackamas bottom; the level land which lies beyond is a most excellent route for a railroad.

Squaring the Circle, etc.—We find the following in the London *Mining Journal* of Oct. 31st: "At the French Academy of Sciences the perpetual secretary announced that a newspaper had recently revived an old story, to the effect that the Academy was in possession of a considerable sum bequeathed to it as a reward for any person who might discover the quadrature of the circle. He therefore suggested the propriety of again publishing the decision the Academy came to in 1775, of never more devoting the slightest attention to the solutions that might be sent in of the following problems: The duplication of the cube, the trisection of the angle, perpetual motion by means of a machine, and the quadrature of the circle. It justified this course as regards the latter, by remarking that many weak-minded persons, utterly ignorant of mathematics, and laboring under the impression that large sums were ready to be handed over to them in case they succeeded in solving that problem, devoted their time to it, utterly neglecting their regular business and the interests of their families, and even occasionally losing their reason by following such a vain pursuit."

A geological map of France is to be prepared at the expense of the government. The map is intended to comprise the minutest details.

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W. B. EWER.....SENIOR EDITOR.

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OMAHA, N. T.—Messrs. Barkalow & Brothers, are our agents for this place.
Mr. A. C. Knox, is our city soliciting and collecting agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1868.

San Francisco:
Saturday Morning, Dec. 19, 1868.

Notices to Correspondents.

COLUMBIUM, Reese River.—The metal whose name you have assumed as a *nom de plume*, which term was applied to it by its first discoverer, Mr. Hatchett, (in 1801) was first detected in a black mineral which he found in the British Museum which had originally been sent to Sir Hans Sloane, by Gov. Winthrop, of Connecticut, and was supposed to have been found near New London, in that State. About two years afterwards, M. Ekeberg, a Swedish chemist, extracted a substance similar to all appearance from the minerals tantalite and yttro-tantalite, who, on the supposition that it was a different substance from columbium, termed the same *tantalum* The identity, however, of the two matters was fully established by Dr. Wollaston, in 1809. In 1824 Berzelius prepared what he supposed was pure metallic tantalum, and described many of its compounds previously unknown. In 1846, H. Rose discovered that the metal hitherto called *tantalum*, and previously regarded as a simple substance, is really a mixture of at least two different metals, and in some cases probably of three. The name tantalum is retained for one of the three allied metals and the other two have obtained the name of *Niobium* and *Pelopium*. According to M. Herman the yttro-tantalum, of Siberia, contains a new metal analogous to tantalum, to which he has given the name of *ilmenium*.

COLOSSUS, Sacramento.—One of the most remarkable instances of the removal intact of an immense mass of rock, in either ancient or modern times, is that of the monolith, now forming the base which supports the statue of Peter the Great at St. Petersburg. This base weighed 400,000 pounds, and was transported many miles both by water and land. In the former named instance it was supported and conveyed between two frigates, and in the latter its conveyance was accomplished by the aid of friction balls. Two vast grooved beams received the friction balls, one being placed underneath each side of the rock. The motive power was obtained by means of capstans worked by relays of men, whose operations were guided by a drummer placed on the top of the rock, the combined effects and stoppages being regulated by the beat of that instrument.

SOLVENT.—Bisulphuret of carbon cannot be formed until a temperature has been reached sufficiently high to vaporize sulphur, in which vaporized form it has to be made to come into contact with red hot charcoal.

TURBID, Austin, Reese River.—Some solid bodies, as lime and citrate of lime, are more soluble in cold water than in hot; therefore a solution of either of them when saturated in the cold, becomes turbid when warmed, and clear again on cooling.

DUTCH FLAT.—We acknowledge the receipt of a communication from "A. E. R.," descriptive of matters of interest in this vicinity.

The Earthquake Commission.

Although no positive secrecy has been imposed, or attempted to be imposed, on the circulation of what may generally transpire at the meeting of the Joint Committee on Earthquakes, we are informed that it has been deemed judicious not to have their proceedings reported in the ordinary way. One of the principal causes which led to this determination was, that while the committee contained many practical men, only a limited number cared to have their verbal mode of expressing their opinions noted and published, however valuable the facts might be that they might wish to disseminate.

From the researches of the Earthquake Commission, it would appear that the most serious earthquake which is recorded in the Spanish archives of California, took place in the year 1812, by which the tower of the church attached to the Mission of San Juan Capistrano was thrown down. We are informed by a gentleman who has visited the ruins of San Juan Capistrano that, from its adobe and cobble-stone structure, an earthquake of much less violence than the one which we have lately witnessed in San Francisco would have sufficed to produce the destructive effects described. It is presumed that we have witnessed quite as violent an earthquake as may be anticipated to occur in future in this State, and the damage in consequence of the late phenomena would most probably have been of the most insignificant character had only common prudence been exercised in the construction of our buildings, especially those erected on made ground.

In the earthquake which occurred at Boston on the 18th of November, 1755, 100 chimneys were thrown down and 1,500 shattered and thrown down in part, at the same time the ends of fifteen brick buildings were thrown down as far as the eaves. That earthquake seems to have been more severe than anything which has yet been recorded of California, and ought at least to induce the timid to be better satisfied of the stability of their California home. In fact, we are given to understand by those who have paid the largest share of attention to the study of these startling phenomena, that no age nor latitude can be pronounced free from the possibility of their occurrence. We are perhaps as likely to be entirely free from disastrous consequences of this character for a long future, as any other part of the world which the timid might select, presupposing that if they only fled it they would be permanently secure.

THE GAS-LIGHT JOURNAL—PROF. WURTZ. This publication comes to us with a new feature. Its title is now *The American Gas-Light Journal and Chemical Repertory*. Under the latter head, Prof. Henry Wurtz announces his intention to lay the foundation of what he trusts may grow in time into a most important, if not the leading, department of the journal. He purposes giving therein a condensed summary of scientific intelligence, brought down to the latest period practicable.

We may add, that Prof. Wurtz is one of the Board of Chemical Experts appointed by the Manhattan Gas Company to investigate the subject of the purification of gas; and we are promised in his forthcoming report upon the matter, the full development of a plan which is destined to mark "a new era in the art."

EDUCATIONAL INSTITUTIONS ON THE PACIFIC COAST.—On the fourth page of this number will be found a list of the educational institutions of the State, giving also the names of professors, instructors, etc. The list of institutions in Oregon, Mexico and South America—embracing an account of the mining academies of Mexico and Lima—is deferred until next week, from want of space.

Contributions for our Cabinet.

Under this heading we shall continue to mention and describe, according to merit, such specimens of ores, minerals, fossils, curiosities, etc., as may be presented, or forwarded to us by mail or express, prepaid. Each article will be numbered and placed in our cabinet, and recorded with the name of the donor, and the claim or location from whence it came.

No. 297.—Gold disseminated through quartz and chloritic slate. From the mine of B. F. and W. G. Heslip, Jamestown, Tuolumne County; 150 feet below the surface.

No. 297½.—Chloritic slate, finely stratified, looking like the leaves of a book, and thickly spangled through its entire mass with auriferous iron pyrites. The specimen is interesting because suggestive of the problem whether the Californian gold, which is found in quartz veins in this Jurassic slate formation, was or was not originally disseminated in the slates, and gradually gathered into and precipitated in quartz veins. Segregation and infiltration are well established and frequently-occurring natural phenomena, by which this opinion might be justified. If the gold was originally disseminated in the slates, it was at one time afloat in the Jurassic ocean which deposited the slates. If, on the other hand, the auriferous solutions came from greater depths than the Jurassic deposits, we must look for a very different ultimate form in which we may become cognizant of the existence of gold.

No. 298.—Sulphuret of antimony, or antimon-glance. From R. and W. Taylor's mine, sixty miles south of Gilroy, in the Coast Range. Similar ores are found around Mount Diablo. They are not worth working, of themselves, as antimony is so commonly found in connection with galena, in the smelting of which enough of it can be obtained without extra cost to supply the market fully.

No. 299.—The same, with porphyritic gangue, or country rock.

300.—Steel made by the use of the "Eureka Carbonizor." Dr. V. L. Owen, Springfield, Mass. The inventors claim for this process that it will harden malleable iron into the best of steel for edge tools with very little expense. The exhibition of samples at the Mechanics' Fair in Springfield last winter attracted much attention. The process is kept a secret.

301.—Hammer and chisel, of steel made by the same process.

302.—Ore from Lower California, near the boundary, consisting of a curious admixture of iron and copper, etc.: iron, 50 per cent.; copper, $102 to the ton; gold, $7; silver, a trace. The iron readily becomes hydrated and yellow on exposure, while the undecomposed parts assume the color of red oxide of copper. Several tons of this ore have been sent up and worked in this city. From J. S. Phillips, M. E.

No. 303.—Artificially crystallized gold, (out of solution in quicksilver). W. S. Begole, Red Dog, Nevada. (Noticed in our issue of Oct. 13th, 1868.)

No. 304.—An unprofitable specimen of a wooden carrot, recently purchased amongst other more or less wooden vegetables at Washington Market, has been sent to us for our cabinet. Wooden carrots are not uncommon in California. Though of the same species, and looking precisely like the ordinary carrot outside, everything under the bark is hard and solid wood, of excellent whittling quality. From Josiah R. Locke.

No. 305.—Oolites, deposited from springs containing lime and magnesia, in Black Rock district. From J. B. Hiskey, Sonora, Tuolumne County.

No. 306.—Quartz gold from Peñon & Blanco, 2½ miles north of Coulterville, owned by Dr. J. P. McLean.

No. 307.—Ditto, containing an admixture of talcose vein matter. From the App mine, owned by App, Waller & Co., Quartz Mountain, Tuolumne County. From the 300 foot level.

No. 308.—Gold, galena and iron pyrites in quartz matrix. From Harris & Oliver mine, adjoining the "Tryo" on the north, one mile from Jamestown, Tuolumne Co. Very rich.

No. 309.—Auriferous pyrites in quartzite matrix. From the Mooney mine, adjoining south to the Tryo or Rosecrans mine.

New Publications.

THE LIFE OF GEORGE AND ROBERT STEPHENSON; Comprising also a History of the Invention and Introduction of the Locomotive. By Samuel Smiles, author of Self Help, etc With Portraits and numerous Illustrations. A. Roman & Co., San Francisco.

In its original form, this work appeared ten years ago, but the lives of the Stephensons were so intimately connected with the principles and history of railroad engineering, that this volume became at once a kind of text-book with which to build the foundations of a knowledge of that specialty; the present being already the ninth edition. Three opening chapters give an account of the ideas and experiments of previous schemers and projectors, of the early locomotive models, of the Cornish locomotive, with a memoir of Trevethick; while a lengthy preface to the present edition brings in some of the railroading questions and problems of the day. The author says:

A notable feature in the growth of railroad traffic of late years has been the increase in the number of third-class passengers, compared with first and second class. Sixteen years since, the third-class passengers constituted only about one-third; ten years later they were about one-half; whereas now they form nearly two-thirds of the whole number carried. Thus George Stephenson's prediction "that the time would come when it would be cheaper for a working man to make a journey by railway than to walk on foot" is already realized.

One of the remarkable effects of railways has been to extend the residential area of all large towns and cities. This is especially notable in the case of London. Before the introduction of railways, the residential area of the metropolis was limited by the time occupied by business men in making the journey outward and inward daily. But now the metropolis has become extended in all directions along its railway lines, and the population of London, instead of living in the city or its immediate vicinity as formerly, have come to occupy a residential area of not less than six hundred square miles!

The aggregation of so vast a number of persons (3,463,771, the population of London), within so comparatively limited an area—the immense quantity of food required for their daily sustenance, as well as of fuel, clothing, and other necessaries—would be attended with no small inconvenience and danger but for the facilities again provided by the railways. The provisioning of a garrison of even four thousand men is considered a formidable affair; how much more so the provisioning of nearly four millions of people!

SAN FRANCISCO MUNICIPAL REPORTS FOR 1868: Published by J. H. Carmany & Co., by order of the Board of Supervisors. pp. 545.

This volume contains a useful map of the outside lands of the City and County of San Francisco, showing the reservations selected for public purposes, under Order No. 800, together with a large amount of statistical and other information pertaining to the business of the Board of Supervisors.

VACCINATE!—We advise all citizens,—and strangers, before coming to San Francisco,—to have themselves vaccinated by careful physicians, and then they may consider themselves substantially secure from all danger of taking the small-pox. Had our city authorities compelled vaccination through reliable canvassing physicians, we should undoubtedly have been freed from the pest months ago. Vaccinate, take plenty of good air and wholesome diet, and consider yourself safe to visit the city as freely as you desire.

THE WEEKLY TIDAL WAVE is the title of a new paper published in Silver City, Idaho, by T. J. & J. S. Butler. We are glad to hear that our old friend, John S., has taken up the quill, and we have no doubt but that his *Tidal Wave* will submerge everything that may oppose it. We have received the first number, and are highly pleased with its appearance. He informs us that his *Tidal Wave* has no connection with earthquakes, but that the name is merely used in a political sense. We welcome it amongst our exchanges.

CONTINENTAL Life Insurance Company, 302 Montgomery street, corner of Pine.

CHEAP MAPS.—Slowly, bnt surely, wo are advanciag in the development of agencies by which the necessities of civilization are to be supplied on this coast. Maps have been sadly needed. Counties, States and Territories which had to be visited were unmapped, undescribed, and even unexplored; or maps so inaccnrato as to be quite unreliable were to bo had only at high prices. Tho era of cheap maps appears to be beginning. We have received from Bancroft & Co. a fifty-cent map of Ceatral California, compiled by Wm. Henry Knight, embracing eleven counties, lyiag within a radius of eighty miles aronnd San Francisco—including Stockton and Sacramento, a corner of Placor Conaty, Watsonville and Cloverdale, as the limits—and showing all the railroads, stago routes, etc. The size is 12x18 inches, and the scale twelve miles to the inch.

PROSPECTING WITH BOOM DITCHES.—A great many valuablo lodes havo been discovered in Clear Creek County this summer, by using what is called "Boom ditches." A number of prospectors club together and dig long ditches along the monntain sido, which, when completed, are supplied with water from monntain streams. The water can be liberated at any desired point, when it washes the looso earth and rocks away—leaviag the bedrock bare, and exposing the lodes to view.

INCREASED DUTIES ON FOREIGN COPPER. The bill to increase the dutios on foreign copper, which has passed the House of Representatives without meeting aay strong opposition, will, if it becomes a law, undoubtedly resuscitate many of the copper mining enterprises in this State, which havo becu lying dormant for two years.

EARTHQUAKE-PROOF BUILDING. — Terra cotta and pottery ware chimney tops, Mansard or crib roofs, with slate or shingle covering, and wooden cornices, are recommended, and being adopted in this city, as practical measures ia the matter of earthquake-proof building.

THE HOUSE CARPENTERS' Eight Hour Leagno gavo a Calico Party, being their second annual "Eight Hour Ball," at the Mechanics' Pavilion, on Thursday evening. The attendance was good, notwithstanding the unfavorable state of the weather, and everybody seemed to enjoy themselves.

ASTRONOMICAL CLOCK.—The steamship Montana on her last trip brought out a fine astronomical clock, which is to be used by the U. S. Coast Survey on this coast. A site for an observatory is to be selected ia this city or vicinity.

A RECENT correspondent, writing in another than his mother tongue, gave a wrong name to the proprietorship of the Jndkins & Kellogg mine, which error we highly deprecate.

Our Office.

The office of the MINING AND SCIENTIFIC PRESS is located in the second story at No. 414 *Clay* street, north side, just below Sansome. Here we have spacious accommodations, with our patent rooms, editorial room, counting room, newspaper and job printing offices,—all conveniently arranged and connected, and our facilities for dispatching business correctly and economically, better than ever before. Don't forget the number —414 Clay street, below Sansome.

DEWEY & CO.

No Branch Office.

Our friends and patrons will bear in mind that we have no branch office in San Francisco, our U. S. and Foreign Patent Agency rooms being suitably arranged with our MINING AND SCIENTIFIC PRESS printing office, at No. 414 Clay street. We have no partners in business except the undersigned. DEWEY & CO.

A. T. DEWEY. W. B. EWER.

THE MINING AND SCIENTIFIC PRESS, which commenced its seventeenth volume on the 4th, comes to us with a newly engraved head, and presenting otherwise its usual tasteful appearance. We take this occasion to say that the PRESS is one of the best papers of the kind in the United States, and every miner and mechanic in the State, as well as the business man, who would keep posted on our industrial resources, should have its name on i subscription books.—*Nevada Gazette.*

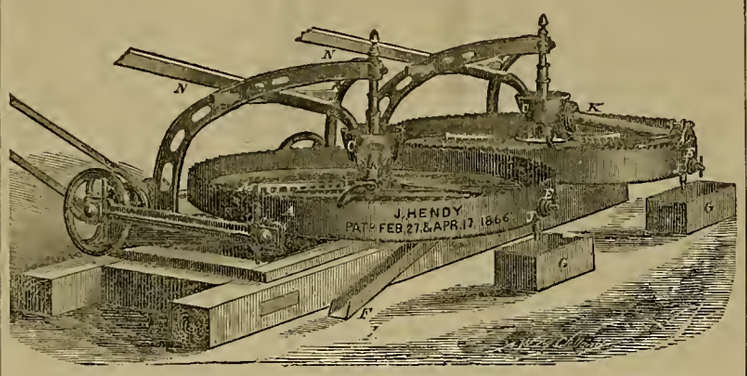
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AWARDED BY THE

MECHANICS' INSTITUTE, 1868,

ALSO AT THE STATE FAIR FOR 1868,

To J. HENDY.



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IMPROVED CONCENTRATORS

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THESE CONCENTRATORS can be seon in operation at the UNION IRON WORKS, corner of Front and Mission streets, San Francisco.

J. HENDY, Patentee.

13v17tf

CO-OPERATIVE UNION STORE.—This is becoming one of the most useful Institutions in the city, and the Mechanic and Laboring Man fully appreciate it. They are now enabled to buy their Groceries and Provisions 20 per cent. cheaper than ever before, and the very best articles in the market. The store is located at 115 Sutter street, Lick House Block, San Francisco. 25v17-am

WHERE TO ADVERTISE.—The attention of traders and mill machinists is called to the fact that the *Mountain Messenger*, of Downieville, Sierra County, possesses many special advantages as an advertising medium over a majority of the interior press, it being the only public journal published within a radius of sixty miles, in the richest and most populous mining sections of the State. Its weekly edition is double the average of country papers, being without the range of large dailies, and having no competition at home. Its local colums afford many items for our city cotemporaries, while its rates of advertising are reasonably low. 10v17tf

Pump Leather.

The attention of MINING COMPANIES, and others requiring a superior article for Hydraulic purposes, is invited to the heavy Oaked Tanned Pump Leather, manufactured and prepared expressly by the undersigned.

TRADE SANTA CRUZ TANNERY E. JONES & Co MARK.

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Small Pox.

We have been shown by Wm. Zelner, the best and most convenient and portable apparatus containing Chlorine, for rooms, which we consider the best disinfectant on hand. Should advise all housekeepers not to be without one. Price $1, complete; to be had, with full directions, at WM. ZELNER'S German Drug Store, 18 Geary street. 25v17-3m

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ESTABLISHMENT.



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The School is under the direction of the President of the College, a Board of thirteen Professors in different specialties, and six assistant instructors.

Regular courses of study, leading to the degree of Bachelor of Philosophy, conferred by Yale College, are arranged as follows: 1—CHEMISTRY AND MINERALOGY. 2—CIVIL ENGINEERING 3—MECHANICAL ENGINEERING. 4—MINING ENGINEERING AND METALLURGY. 5—AGRICULTURE. 6—NATURAL HISTORY AND GEOLOGY, and 7—SELECT COURSE.

Advanced students are also admitted to optional courses, and if already College graduates, are received as candidates for the degree of Doctor of Philosophy.

Tuition, $125 per year of forty weeks.

The Libraries, Museums, Laboratories and Apparatus, accessible to students, are various and expensive.

For copies of the Annual Circular and Report, letters may be addressed to the "Secretary of the Sheffield Scientific School," New Haven, Conn. 13v6-1y16p

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FIRE ENGINES, FORCE AND LIFT PUMPS,

Steam, Liquor, Soda Oil, Water and Flange Cocks, and Valves of all descriptions, made and repaired. Hose and all other Joints, Speiter, Solder, and Copper Rivets, &c. Gauge Cocks, Cylinder Cocks, Oil Globes, Steam Whistles,

HYDRAULIC PIPES AND NOZZELS

For Mining purposes, Iron Steam Pipe furnished with Fittings, &c. Coupling Joints of all *sizes*. Particular attention paid to Distillery Work. Manufacturer of "Garratt's Patent Improved Journal Metal."

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The Chili Exposition.

THE UNDERSIGNED WOULD CALL THE ATTENTION of the manufacturers of California to the National Exposition to be held during the coming spring in Valparaiso, Chili, next to California, is the most important country on the Western Coast of America. And this Exposition cannot fail to create a demand for our staple manufactures, if they are well represented. The writer has resided for some years in Chili, and is familiar with its people, business and language; is a practical mechanic, and proposing to visit the Exposition, offers to take charge of machinery or other material that parties may wish to send thither, and pledges himself faithfully to bring before the public of Chili their respective merits. He can be seen daily, at his office, No. 49 Montgomery Block. Prompt action is necessary.

DAVID R. SMITH,

Civil and Mechanical Engineer.

REFERENCES—Hanscom & Co. (Etna Iron Works); A. S. Hallidie (President Mechanics' Institute); Lynch & Andrade.

San Francisco, November 21st, 1868. 34v17-tf

Pacific Mail Steamship Co's

STEAMSHIPS FOR

NEW YORK, JAPAN AND CHINA.

LEAVE WHARF, CORNER OF FIRST AND Brannan streets, at 11 o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPINWALL for NEW YORK.

On the 6th, 14th, 22d and 30th of every month.

Steamer leaving San Francisco on the 6th touches at Manzanillo. All touch at Acapnico.

Departure of the 14th is expected to connect with the French Trans-Atlantic Co.'s steamer for St. Nazaire, and English steamer for South America. Through tickets can be obtained.

Departure of 14th is expected to connect with English steamer for Southampton and South America, and Australia, and P. R. Co's steamer for Central America. Through tickets can be obtained.

STEAMERS FOR DECEMBER, 1868.

The following Steamships will be dispatched on dates as given below:

December 5th—MONTANA.....Captain West, Connecting with ALASKA, Capt. Gray.

December 14th—CONSTITUTION....Capt. Wm. H. Hudson Connecting with RISING STAR, Capt. King.

December 22d—GOLDEN CITY.....Capt. J. M. Cavarly, Connecting with HENRY CHAUNCEY, Capt. Connor.

December 30th—COLORADO.....Capt E. S. Farnsworth, Connecting with ARIZONA, Capt Maury.

Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult.

An experienced Surgeon on board. Medicine and attendance free.

These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.

Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—if desired in amount of £10 to £20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England.

The Steamship GREAT REPUBLIC, Capt. S. Doane, will be dispatched on MONDAY, January 4th, 1869, at 12 o'clock M., from wharf corner of First and Brannan streets, for HONGKONG, connecting at Yokohama with the steamer COSTA RICA for Shanghai.

For Merchandise and Freight for New York and way ports, apply to Messrs. WELLS, FARGO & CO.

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London Society	6 00
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POSTMASTERS are requested to promptly inform us of the removal of subscribers of the PRESS from their locality, or of neglect to take the paper out of the office from any cause—when the subscriber omits that duty himself. It is not our intention to send this journal to any party longer than it is desired. If we inadvertently do so, subscribers and others will please inform us.

Machinists and Foundries.

PALMER, KNOX & CO.,

Golden State Iron Works,

Nos. 19, 21, 23 and 25 First Street,
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Self-Adjusting Piston Packing,

Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

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AMALGAMATOR AND SEPARATOR,

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WITH PALMER'S PATENT STEAM CHEST,

Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continual working.

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BOILERS—High and Low Pressure,

Pump, Pipe and Sheet Iron Work of every kind.

Quartz Mill Work,

Including High and Low Mortars, for wet or dry crushing: Furnace Irons for Roasting Ores; Freiberg Barrels; Varney's and Wheeler's Amalgamating Pans and Settlers; Stamp Shoes and Dies of best White Iron; Russia Iron Screens, etc., etc.

Flour Mill, Saw Mill and Sugar Mill Work in every variety; Pumping and Hoisting Machinery; Hausbrow's Patent Challenge Pumps, for Domestic, Ship and Mining use—the most approved and successful Pump manufactured.

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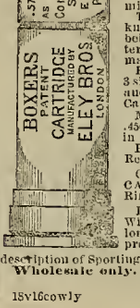
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INDUSTRIAL RESOURCES OF VENEZUELA.—A grant of 240,000 square miles having been made by the government of Venezuela to the "American, English and Venezuela Trading and Commercial Company," represented by Dr. H. M. Price and others. It is of interest to note some of the industrial resources of that country. Gold, silver, copper, tin, coal, soda, asphalte, petroleum, salt, alum, etc., have been found; the coal, which is of bituminous quality, and said to be equal to the best English Cannel coal, is abundant in many places. At Araya, facing the sea, are extensive salt mines, which yield the purest salt.

The working of the mines of Venezuela has been much neglected, but the existence of metalliferous veins in Venezuelan Guayana cannot be doubted—grains of gold are found in the whole mountainous territory of Venezuela, mines of gold and silver were worked at the beginning of the Conquest, and Indian gatherers have sometimes found lumps of gold 15 or 16 ounces in weight. The Spaniards, in the year 1551, wrought the gold mine of Buria, which was the cause of the foundation of Barquismeto. The mines of Los Teques could not be peaceably wrought till the defeat of the Cacique Guayeupuri, a celebrated chief of the Teques, who long contested with the Spaniards the possession of the province of Venezuela. From several geological indications there exist two groups of auriferous alluvial land—one between the sources of the Rio Negro, the Uaupes, and the Iquiare; and the other is situated between the sources of the Essequibo, the Caroni, and the Rupumeri rivers. The gold mines of Caratel and Guasipati, on the Caroni river, a short distance from Las Tablas, have lately been discovered; they are rich in gold, both in abundance and quality. The quality of the gold is 24 carats, a quality that neither California nor Australia possesses. The deposits of iron and copper are also very great in Venezuelan Guayana, but thus far undeveloped. The copper is of an excellent quality, and is even preferred to that of Sweden and Coquimbo (Chili). Mercury and lead have been found, but not yet worked.

WOODEN RAILROAD IN NEVADA.—The *Territorial Enterprise* says: Mr. Scott, County Surveyor of Washoe County, has been for some time engaged in surveying a route for a wooden railroad from Reno to this city. He finds a very good route, with a maximum grade of but 132 feet. Mr. Scott estimates the cost of the road at $300,000. The rails will be of Oregon spruce, the most compact timber on the Pacific Coast. The trains will be drawn either by horses or by light locomotives—locomotives with wheels covered with thick india rubber tires, have been suggested. Mr. Scott says that in case the road is built, wood can be furnished in this city at $5 per cord, and that quartz can be transported to the river for a mere trifle, where water mills will crush it for 75 cents to $1 per ton. The cost of grading that portion of the road between Reno and the foot of the Geiger Grade would be trifling, and even in the mountains there is no very heavy work to be done. With such a railroad almost every kind of ore found in this vicinity could be profitably worked, and sooner or later a road of the kind must be built.

REMARKABLE IF TRUE.—The following is from the Wellsville (Ohio) *Union*: Mr. James Parsons and his two sons were at work in the Strip Vein Coal Bank of Captain Lacy, at Hammondsville, one day last week, when a huge mass of coal fell down, disclosing a large smooth slate wall, upon the surface of which were found, carved in bold relief, several lines of hieroglyphics. Crowds have visited the place since the discovery, and many good scholars have tried to decipher the characters, but all have failed. There are several lines, about three inches apart, the first line containing twenty-five words. Attempts have been made to remove the slate wall and bring it out, but upon tapping the wall it gave forth a sound that would seem to indicate the existence of a hollow chamber beyond, and the characters would be destroyed in removing it. At last accounts Dr. Hartshorn, of Mount Union College, had been sent for to examine the writing.

THE COMPOSITION OF LAVA.—The lava thrown out by Mount Vesuvius during the present eruption has, it is said, been subjected to analysis by an Italian chemist, and found to contain the following ingredients: Silica, 39 parts; lime, 18; alumina, 14; magnesia, 3; protoxide of iron, 13; potash, 1; soda, 10; water, 2. The specimen, therefore, closely resembled the common glass seen in wine bottles.

SPRING BALANCES.—The following is from an exchange: The spring balance is almost the only sort of apparatus that is of more value to the owner the longer it is used. This contrivance is so, for the reason that every strain on the tension of the spring causes it to bend a little easier; so that, if admitting it furnished a true index of the weight of an article when it was new, it will not do so after a few months.

Not only is the spring balance inaccurate when compared with the lever balance, but it is, after a little use, inaccurate when compared with itself; that is, it will require a greater weight to register the tenth pound of the scale than it did the first; for the reason that smaller quantities are more frequently weighed than larger ones; or, again, if ten pounds are weighed separately, they will not weigh ten pounds when together.

QUICK TIME.—A train on the Chicago and Northwestern Railroad, on the 12th ult., made the unprecedented run of ninety-one miles in ninety minutes. The train was running east, from Fort Howard (Wis.) to Chicago. The quickest prior runs of which we have any record, are as follows: In England, 18 miles by a special train in 15 minutes. In the United States, 14 miles in 11 minutes, by an engine and six cars on the N. Y. Central; 10 miles in 7¼ minutes, on the Pennsylvania Railroad; 144 miles in two hours 49 minutes on the Hudson River road; 84 miles in 90 minutes, from Indianapolis to Union City; 305 miles in 7 hours 32 minutes, from Albany to Niagara.—*Am. Journal of Mining, Nov.* 14.

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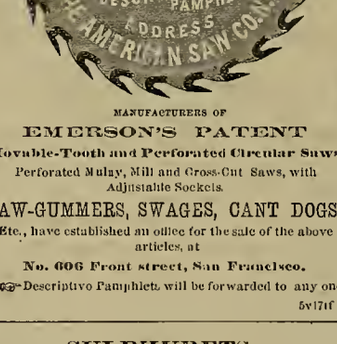
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SUPERIOR BLASTING AND SPORTING GUNPOWDER
Black Diamond, in 1lb canisters.
do do in ½lb canisters.
do do in ½ kegs.
Hunter's Pride, in 1lb canisters.
do do in ½lb canisters.
do do in ¼ kegs.
do do in ⅛ kegs.
Pacific Mills River Shooting, in 1lb canisters.
do do do in ½lb canisters.
do do do in ¼ kegs.
do do do in ⅛ kegs.
do do do in 25lb kegs.
Pacific Mills Rifle, in 1lb canisters.
do do in ½lb canisters.
do do in ¼ kegs.
do do in ⅛ kegs.
do do in 25lb kegs.
Blasting and Mining Powder $2 25 per keg.
Safety Fuse and Shot for sale by
HAYWARD & COLEMAN Agents.
24v15-3m 414 Front street, San Francisco.

Removal and Partnership.
Notice is hereby given, that I have removed from my old stand on Beale street, and have formed a co-partnership with Mr. A. CAMERON, for the purpose of carrying on the business of Stair-Building, Wood-Turning and Scroll Sawing. The business will be conducted as formerly at Cameron's, corner of Market and Beale streets, and also at Nos 185 and 187 Brannan street, where ample steam power and all necessary facilities have been provided for every branch of the business.
Different sizes of Redwood Balusters constantly on hand for sale. Also Spanish Cedar, Walnut and California Laurel.
19v17-3m N. P. LANGLAND

English Capitalists beyond the Sierra Nevada.

Two English companies, whose operations at this time, beyond the Sierra, appear to be worthy of notice, are the "Nevada Lead and Mining Company," located (for reduction purposes) at Reno, and the "Imperial Silver Quarries Co." located at Monitor, Alpine County, California. At a meeting of the stockholders of the former, held in London, on October 29th, Mr. J. J. Duune, the manager, expressed his opinion (says the London *Mining Journal)* that it would be difficult for some time to farm the company's laud at a profit, and recommended that it should be laid down as meadow, by which a profit of $10 per acre could be obtained with little outlay. That portion of the company's estate immediately adjoining the town of Reuo, which already contains a population of 1,200, would be valuable for building lots, and could shortly be disposed of to advantage. As soon as the Virginia and Truckee Railroad is completed, Reno would, probably, be a considerable place, as it would be the site of all the reduction works for the Virginia ore. The company's mill was in excellent order, and was, without doubt, one of the best constructed mills in the county, but the canal and tail-race needed repairs, aud the latter required to be made much larger. Mr. Dunne was satisfied he could start the mill at once, with ores from the Humboldt aud intermediate districts, if he were provided with the necessary funds, which he estimated would be $10,000 to $12,000; and he estimated the profits would be $200 per day, as the company had the cheapest of powers, and none could compete with them. The railroad would bring ores from Humboldt at half freights, having no other back freight from there. With a view to devoting the company's funds to getting the mill to work, he had suspended all expenditure on the company's Whitmore mine for the present. Mr. Dunne also suggested that it might be advisable to erect smeltiug works in the Truckee, for the treatment of the richer ores from Humboldt.

The town of Reno was, in the opinion of the Chairman, fast rising in importance, and likely to become one of the principal seats of the industry of Nevada—that of the reduction of ores. The policy recommended by Mr. Dunne of stopping the outlay at the Whitmore mine, in order to get the mill into work, was one the directors approved, as, besides the profits auticipated from the mill, it would bring a number of workpeople and others to the neighborhood of Reno, and so increase the value of the land there. It is proposed as a beginniug, to crush Humboldt ores at such reduced rates that it will be an object for miue owners to contract for the reduction of their ores iu large quantities. The mill of the company is, according to the Humboldt *Register*, one of the finest ever built iu the State, and perfect in all its departments. The railroad passes within a few hundred yards of it, making it easy of access.

The Imperial Company, in Alpine, is at work on a tunnel which has been run in, as we are informed by the Supt., Mr. Lewis Chalmers, 610 feet, to a point 440 feet under the surface, and within 180 feet of the Imperial ledge, of which the company owns 1,000 feet; being on the same range as the Tarshish and Moruing Star mines. Other valuable lodes are to be intersected by the tunnel, which is six feet wide at bottom, tapering to five feet at top, seveu feet high from bottom of track to center of arch, and ou a grade of ⅞ of an inch to every 16 feet. The Directors in London, are, the Right Honorable the Earl Poulett, Chairman; Heury Syme, Esq., Vice-Chairman; the Right Honorable Viscount Ranelagh, the Lord Richard Cavendish, the Honorable William Towry Law, Sir Robert Charles Dallas, Baronet, Sir Reginald H. Graham, Barouet, Sir Henry Drummond Wolf, K. C. M. G., Baronet, Sir Francis Hastiugs Doyle, Baronet, George W. M. Sanford, Esq., M. P., Captain Charles Lousada, Thomas Viner, Esq.

The Mining and Scientific Press comes to us this week in a new dress throughout, much improving its appearance. The Press is one of our most valuable exchanges, and fills a place in mining and scientific matters never attained by any other journal.—*Colorado Miner*

To Inventors on the Pacific Coast.

Messrs. DEWEY & CO.

Take occasion to call your attention to the following rules, regulations and suggestions relative to the obtaining of LETTERS PATENT of the United States:

Steps Necessary to Procure a Patent.

The FIRST thing required is a model, if your invention can be represented by one. It is not only immediately necessary in preparing the papers, but the law demands that the inventor shall, in all cases, furnish a model, which must not exceed twelve inches in any of its dimensions. A model of less size will answer when more convenient. It should be neatly made, and of hard wood or metal, or both, varnished or painted; the name of the inventor should be engraved or painted on it in a permanent manner.

When the invention consists of an improvement on some known machine, a full working model of the whole will not be necessary. It should he sufficiently perfcet, bowever, to show, with clearness, the nature and operation of the invention.

As soon as the model is ready, it should he carefully boxed and shipped by express, or otherwise, to our address, namely: DEWEY & CO., *Mining and Scientific Press, San Francisco.* Prepay expenses and send express receipt to us hy mail.

A full description must also be sent with the model, embodying all the ideas of the inventor respecting the improvement.

Simultaneously with the model, the inventor should send us the first instalment of the Government fee, fifteen dollars. The money may be forwarded either by express with the model, or by mail. The safest way to remit is hy draft on San Francisco, payable to our order. Always send a letter with the model, and also the remittance, stating the name and address of the sender. On receipt of the model and Government first fee of $15 in currency, the case is duly registered on our books, and the applicntion proceeded with as fast as possible. When the documents are rendy we send them to the inventor by mail, for his examination, signature and affidavit, with a letter of instruction, etc. Our feo for prepnring the case is then due and will be called for. The caso will theu be presented to the Patent Office, and as soon as tho patent is ordered to he issued the Government last feo of $20 in currency will be required. The law states that every patent shall he dated as of a day not later than six months after the time at which it was passed and allowed, and notico thereof sent to the applicant or his agent. And if tho final fee for such patent be not paid within the said six months, the patent shall be withheld, and the invention therein described shall become public property as against tbe applicant therefor.

Inventors who do business with us will be notified of tbe state of their application in the Patent Office, when it is possible for us to do so We do not requiro tho personal attendance of the inventor, unless it is one of great complication, as the business can bo well done by correspondence.

When the invention consists of a new article of manufacturo, a medicine, or a new composition, samples of the separate ingredients, sufficient to make the experiment, and also of the manufactured article itself must be furnished, with full description of the entire preparation.

The average time required to procure a patent, when tbe case is conducted at our agency, is ten weeks. We frequently get them through in less time but in other cases, owing to delay on the part of Government officials, the period is sometimes extended to four or five months, and even more. We make a special point to advance our cases as rapidly as possible.

Advantages to Patrons of Our Agency.

Some of the advantages to be obtained by patronizing us may be enumerated as follows:

1 Inventors on this coast having their applications for patents made out through our agency, can sign tbeir papers at once, and thus secure their rights at least *three months sooner* than by trusting the same to distant agencies, situated at New York or Washington.

2. As many of the inventions conceived here are especially adapted to the Pacific coast, they should be properly brought out here, which can bo accomplished (if the invention is a meritorious one) by illustrating the subject, with a careful description, in the columns of the MINING AND SCIENTIFIC PRESS, *free of charge;* the inventor paying simply for the engraving, which will be executed at a moderate charge. The same cuts can bo subsequently used for hooks, letters or circulars. In a word, we are determined to make it of decided interest for every inventor on this coast to patronize home talent and enterprise.

3. Most inventions on this coast are for objects and purposes but little understood by parties at Washington or other parts of the East. Our mining machinery, processes and operations are best understood by those familiar with their use; and a personal verbal explanation is oftentimes of important service, and enables us to be more successful than agents generally.

4. Remittances of money made by individual inventors to the Government sometimes miscarry, and it has frequently happened that applicants have not only lost their money, but their inventions also, from this cause and consequent delay. We hold ourselves responsible for all fees entrusted to our agency. By sending duplicate correspondence to our Washington agent we avoid hazardous delays.

Saving of Time.

In urgent cases for an immediate patent, persons can deposit the amount of the last fees with us, in San Francisco, and have our Washington agent procure the *issue* of the papers as soon as granted, saving the two or three months time which would otherwise be required for the inventor to receive notice and then forward the money. Money advances for this purpose will be returned, should the application be rejected. By adopting this course, we are enabled, with our other advantages, to secure the *receipt* of patent papers to inventors on this Coast, at least four or five months sooner than can be done through agents in the East, without the applicant going to the hazardous expense of sending on the last fee before it is known whether the patent will be granted.

What Claims can be Patented?

A knowledge of Ancient and Modern Mechanics and familiarity with American and Foreign patent issues and rejections, enables us to determine in a measure in all cases what can be patented, and how much can be claimed as new and novel, and be covered by Letters Patent. This is one of the most difficult questions encountered by both old and new inventors—one in which an experienced counsel is of great service—and yet it can never be positively determined except by presenting a formal application for a patent to the Government, embracing a petition, specification, model, duplicate drawings and payment of the first government fees.

Patent Rejections.

FIRST. Refusals are always made by the Patent Office if there is any informality in the specification, or if it does not contain the entire subject matter of the invention, and is not properly arranged and stamped. A slight omission often proves fatal.

SECOND. If the drawings are defective, and are not executed in an artistic manner in India ink, and on sheets of the required size, they are subject to rejection.

THIRD. Applications are always rejected where the claims conflict with others already patented.

If the rejection should be an unjust one—which sometimes happens—it can generally be reversed, and the patent obtained by contesting the case.

For the prosecution of such cases, obtaining references, making arguments, and personally attending to explain the case (through our agent in Washington), *we charge no second fee*, as is the case with some agencies, but attend to the business till finally allowed or twice rejected, without extra charge beyond the Government fee.

Inventors who have rejected cases, prepared either by themselves, or for them hy other agents, and desire to ascertain their prospects of success by further efforts, are invited to avail themselves of our unsurpassed facilities in securing favorable results. We have been successful in securing Letters Patent in many such cases. Our terms are very moderate.

Dangers of Delay.

Situated so remote from the seat of Government, delays are even more dangerous to the inventors of the Pacific coast than to applicants in the Eastern States. Valuable patents may be lost by the extra time consumed in transmitting specifications from Eastern agencies back to this coast for the signature of the inventor, or by reason of return for amendment when addressed directly by the inventor to the Government.

Expense of Applying for Patent.

The Government fee, on filing an application for a patent in the United States, is fifteen dollars; and if the patent is allowed, twenty dollars additional is required. If rejected, the first fee of fifteen dollars is all that is demanded.

To the foregoing official fees must be added fees for preparing the various documents and expense of drawings. Our charge for preparing a case, presenting it to the Government, and attending to all business connected with it, varies from $20 to $40.

Following is the list of Government fees, payable in currency:

On every caveat	$10
On every application for a patent, for seventeen years	10
On every application for a design, for 3 yrs and 6 mos	15
On every application for a design, for seven years	15
On every application for a design, for fourteen years	30
On issuing each original patent	20
On filing a disclaimer	10
On every application for a re-issue	30
On every additional patent granted on a re-issue	30
On every application for an extension	50
On the grant of every extension	50
On a appeal to the Examiners-in-Chief	10
On appeal to the Commissioner from Examiners-in-chief	20
On every appeal to the Judges of Circuit Court, D. C.	25

Illustrate your Inventions.

Too many ingenious inventors lose the value of their genius and labor by not bringing their improvements conspicuously or plainly enough before the public—the general reading public.

One of the best means—and the cheapest, too—for eliciting attention to a new invention, is that of illustrating and describing it in the columns of the MINING AND SCIENTIFIC PRESS. To do this in the case of a meritorious improvement (and none other will be accepted), will cost our patrons no more than the price of a first-class engraving.

With a cheap representation we will have nothing to do, as it would be calculated to injure both the inventor and ourselves.

We also take especial pains in furnishing engravings and electrotypes of superior merit, of all kinds, at fair rates, and tender our patrons the benefit of our practice and experience, by advice and assistance, in getting up their circulars, advertisements, etc.

DEWEY & CO.,

Patent Solicitors, Mining and Scientific Press Office,
414 *Clay Street, below Sansome, San Francisco.*

SEPTEMBER, 1868.

LOOK AT THESE PRICES

FOR GENUINE

WALTHAM WATCHES

The "P. S. Bartlett" movement, with extra Jewels, Chronometer Balance, Patent Dust Cap, Patent Safety Pinion, and all other late improvements, in a solid 3oz. Coin Silver Hunting case, with Gold Joints, $27 coin.
The same in 4oz. case, $30 In 5oz case, $33 coin.

The "Waltham Watch Co." movement, with extra Jewels, Chronometer Balance, Patent Dust Cap, Patent safety Pinion, etc., in 3oz. case, with Gold Joints, $30 coin.
The same in 4oz. case, $33. In 5oz., $36 coin.

The "Appleton, Tracy & Co." movement, with extra Jewels, Chronometer Balance, Patent Dust Cap, Patent Safety Pinion, etc., in 3oz. case, Gold Joints $31 coin.
The same in 4oz. case, $37. In 5oz., $40 coin.

"P. S. Bartlett" Watch in 2½oz 18 carat Cold Hunting case, $80 coin.
"Waltham Watch Co." Watch, in 2½oz 18 carat Cold Hunting case, $84 coin.
"Appleton, Tracy & Co." Watch, in 2½oz 18 carat Gold Hunting Case, $87 coin.
Any additional weight at $1 per dwt., or $20 per oz. extra.

We will send any of the above by Wells, Fargo & Co's Express, with bill to collect on delivery, and give the purchaser the privilege to examine the Watch before paying. All Express charges, however, to be paid by the purchaser. But if the amount of the price of the Watch is remitted to us with the order, we will prepay the Express charges to San Francisco ourselves. In sending money, drafts on Wells, Fargo & Co. are preferred.

We wish it distinctly understood that these watches are the very best, with all the latest improvements, and that they are in perfect running order, and if any one does not perform well, we will exchange it, or refund the money.

Please state that you saw this in the MINING AND SCIENTIFIC PRESS.

HOWARD & CO.,
Jewelers and Silversmiths,
619 Broadway, New York.

One Block above the Metropolitan Hotel.

Every one visiting New York is invited to call at our establishment.

In order that all may address us with confidence, we invite attention to the following:

Office of Wells, Fargo & Co.,
84 Broadway, New York, Oct. 26, 1868.

We can cheerfully commend Messrs Howard & Co., No. 619 Broadway, New York, to our friends, as a reliable and trustworthy firm, with the assurance that all orders sent them will have faithful and prompt attention.

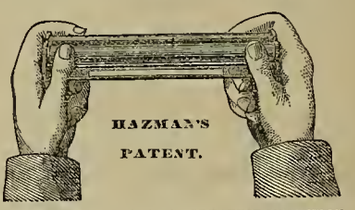
C. GODDARD, Treas.
For Wells, Fargo & Co.

And we also refer to

I. W. RAYMOND, Esq., San Francisco.
R. C. HOWARD, Esq., San Francisco.
T. R. BUTLER, Esq., U. S. Mint, San Francisco.
W. S HOBART, Esq., Virginia City, Nevada.

21v17-41—22 25-26

CIGAR AND CIGARETTE
Roller and Wrapper.



This useful little article is the GREATEST INVENTION of the age for the benefit of smokers, reducing the cost of Cigars and Cigarettes to the mere cost of the Tobacco. Very convenient to carry in the POCKET, producing no smell, and adapted to the use of any tobacco. In two sizes and three styles—Japanned, Brass, and Silver-plated. Sample machines, with 100 wrappers, sent free of postage on receipt of $1. The highest price awarded at the Fair of the American Institute, September and October, 1867 For particulars, address H. C. Witt, 57 Cedar street, New York.

Beware of infringements. All genuine have my name printed on the bands.

E. M. DEWEY, Agent for Pacific States, 423 Washington street, San Francisco. 24v17-6m

Scientific Churn.

Warranted to make Butter, from sweet or sour milk or cream, in from

TWO TO FIVE MINUTES.

Having sold the Patent Right of David W. Seeley's "Scientific Churn" for all of the territory west of the Rocky Mountains, except one half of Oregon, and the counties of

Monterey, Santa Cruz, Santa Clara, San Mateo, Alameda, Marin, Sonoma, Solano, Yolo, Sacramento and San Joaquin,

To McCONATHY & KINCAID,
OF PACHECO,

PARTIES WISHING TO PURCHASE

State or County Rights,

Will please apply to them.

J. N. SEELEY.

State or County Rights, or Churns, for sale by

McCONATHY & KINCAID,
PACHECO, CAL.

San Francisco, Dec. 3, 1860. 24v17-1m

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It is the best, cheapest, and simplest Press ever invented. Gives perfect satisfaction to all who purchase, and is pronounced by all a perfect success. We have sold many of them to Postmasters, Printers, Druggists, Clergymen and all classes of business men, and they are making and saving money by using them at their homes and places of business.

Price of Presses, $8, $12, $16, $23, $30. Price of Offices, $15, $.0, $30, $42, $45, $70. Send for Circular to LOWE PRESS COMPANY 3 Water street, Boston. 4v17tf

AMERICAN
(WALTHAM)
WATCHES,
THE BEST!
THE CHEAPEST!

The extensive use of these Watches by Railway Conductors, Engineers and Expressmen, the most exacting class of watch wearers, has thoroughly demonstrated the strength, steadiness, durability and accuracy of the Waltham Watch. To satisfy that class in all these respects is to decide the question as to the real value of these timekeepers.

More than 300,000 are thus speaking for themselves in the pockets of the people.

Imported watches are made on an expensive system, in small numbers, but by numerous makers, and are placed in the market here by an importer, who first secures a MONOPOLY OF SALE OF SOME ONE MANUFACTURE.

To the manufacturer's profit must be added the cost of importation.

A custom-house duty of twenty-five per cent payable in gold.

A profit of at least twenty-five per cent. to the importer another to the jobber, thus doubling the cost of the imported Watch.

At Waltham, Watches are manufactured on a large scale under one roof and system of supervision and management, thereby saving many of the expenses necessarily incurred in small establishments,—hence their great cheapness.

All respectable dealers now sell Waltham Watches, and competition, as the world knows, is favorable to small profits. The trade is satisfied, because, though the profit on each watch is small, the demand is large and all are saleable.

Unscrupulous importers occasionally place a worthless Swiss imitation in the market. To avoid imposition, the purchaser should invariably demand a certificate of genuineness, signed by R. E. Robbins.

There are different grades of finish in the different varieties of Watches made by the Waltham Company, as there are different sizes and shapes to suit all tastes and means; but every Watch that bears the genuine trade-mark of "Waltham," is guaranteed to be a good one, and nobody need be afraid to buy it.

Every Watch Fully Warranted.

For sale by all first class dealers in the United States and British Provinces.

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AGENTS,
182 Broadway, New York.
R. B. GRAY & Co., Agents for California,
616 Merchant street, San Francisco.
1v17-6m

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Union Insurance Company,
OF SAN FRANCISCO.
Nos. 416 and 418 California Street.

Cash Capital (U. S. Coin).....$750,000

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Having consolidated with the Union Insurance Company, January 1, 1866, are now prepared to effect

Marine as well as Fire Insurance,

upon the most favorable terms.

☞Losses promptly and equitably adjusted and paid in Gold Coin.

GUSTAVE TOUCHARD, President.
CHARLES O. HAVEN, Secretary.
GEO. T. BOHEN, Surveyor. 21v16-1amlf

MEUSSDORFFER,
HAT MANUFACTURER
And dealer in
Hats and Caps
AT WHOLESALE AND RETAIL.

635 and 637 Commercial street.....San Francisco
125 J street.....Sacramento.
Corner of D and Second streets.....Marysville.
74 Front street.....Portland, Oregon.

Our wholesale House, 628 Commercial street, extending through to 637 Clay street, San Francisco, contains always a most choice, and the largest, assortment in this State. Every Steamer brings the latest issued novelties from Europe and New York, which can be found at all the above stores, at moderate prices. 23v16-3m

The Oakland Daily Transcript,
A BIT PAPER.

The Largest Circulation in the County.

Advertisements in the Transcript will reach every part of Alameda County.

RATES FOR ADVERTISING
VERY LOW.

REGISTER YOUR LETTERS containing money addressed to us, or we will not be responsible. Remittances by Express must be in packages, prepaid. When practicable, it is best to remit by draft, or order, on some San Francisco bank or firm

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BARTLING & KIMBALL,
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Paper Rulers and Blank Book Manufacturers,
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(SUCCESSOR TO O. GORI)
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Mantels, Monuments, Tombs, Plumbers' Slabs
Etc., On hand and Manufactured to order.
☞ Goods shipped to all parts of the State. Orders respectfully solicited. 5v3-3m

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ARTIFICIAL LEG,
Manufactured in Philadelphia, Penn.
JARVIS JEWETT, AGENT.
218 Montgomery Street, San Francisco. 10v8-1m

J. M. STOCKMAN,
Manufacturer of
PATTERNS AND MODELS,
(Over W. T. Garratt's Brass Foundry,
S. E. Corner of Mission and Fremont sts.,
6v14tf SAN FRANCISCO

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SEAL ENGRAVER,
AND LETTER CUTTER,
Brass and Steel Stamps and Dies, 522 Montgomery street, San Francisco. Orders by express promptly attended to.
6v16

DESKS AND OFFICE FURNITURE.
JOHNSON & BEST,
Manufacturers of all kinds of
Desks and Office Furniture,
717 Market street, near Third.
Warerooms up stairs. A large variety of Desks always on hand; all kinds of Office Furniture and Cabinet Work made to order.
18v17qr

LOOK TO YOUR ROOFS!
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Factory on Kings:reet, between Third and Fourth street.
New roofs covered and leaky roofs repaired, in thorough and substantial manner, promptly and at very reasonable rates. Proprietors of Engan's Patent. 18v17tf

Pacific Chemical Works.
SULPHURIC ETHER.
SPIRITS OF NITRE,
AQUA AMMONIA,
ACETIC ACID,
CYANIDE OF POTASSIUM
—AND—
ACIDS AND CHEMICALS OF ALL KINDS.
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Office, 619 Montgomery Street.
LOUIS FALKENAU, State Assayer.
☞Particular attention paid to the Analysis of ORES, MINERALS, METALS, etc. 8v17

BROOM HANDLES.
FOR SALE,
A Machine for turning Broom Handles.
Will be sold low, as we have no further use for it. Apply at the Wooden Ware Factory of
BLAM & HOWES,
23v17-1m16pur Corner of Main and Mission streets.

A Book for Every Miner and Scientific Man.
JUST PUBLISHED,
KUSTEL'S NEW WORK,
CONCENTRATION
Of all kinds of Ores, and the
CHLORINATION PROCESS,
For Gold-Bearing Sulphurets, Arseniurets, and Gold and Silver Ores generally.

Price, - - - - - $7.50

A liberal discount to the Trade. For sale by the Booksellers Sent to any part of the United States, postage paid, on receipt of the price. Address,
DEWEY & CO., Publishers,
Office of the Mining and Scientific Press, 414 Clay street,
16v1tf SAN FRANCISCO.

NEVADA CITY, Nov. 3d, 1868.

MESSRS. DEWEY & CO.—Gentlemen:—Your favor of the 30th ult., is just received, informing me of the successfull prosecution of my application for a patent on my "Hair Cutting Shears." Please accept my sincere thanks for the speedy and successful manner in which you have conducted the case, and believe me, as ever,
Very truly yours, LEE D. CRAIG.

New Mining Advertisements.

U. S. Grant Mining Company.—Location of Works: Carlisle, Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the ninth day of November, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Alphens Bull	2	218	$109 00
E B. Mott, Jr	6	150	75 00
Geo Mohrel	10	5	2 50
Geo Mohrel	11	10	5 00
Geo Mohrel	12	10	5 00
Geo Mohrel	13	5	2 50
Geo Mohrel	14	5	2 50
Silas Garber	19	10	5 00
Jas P Wheeler	30	50	25 00
Jas P Wheeler	31	50	25 00
Jas P Wheeler	32	50	25 00
Jas P Wheeler	33	50	25 00
Jno Vall	34	20	10 00
L J Fiuni	37	20	10 00
I L Requa	38	50	25 00
I L Requa	39	50	25 00
I L Requa	40	50	25 00
I L Requa	41	50	25 00
J L Van Bokkelen	48	4	2 00
L A Booth	49	50	25 00
L A Booth	50	54	27 00
L A Booth	51	100	50 00
J Riggs		4	2 00
McFarland		16	8 00
Sarah Snyder		32	16 00
N M Baxter		20	10 00

And in accordance with law, and an order of the Board of Trustees, made on the ninth day of November, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by J. C. Merrill & Co., auctioneers, No. 24 California street, San Francisco, California, on Saturday, the second day of January, 1869, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

ENOS TAYLOR, Secretary.
Office, No. 226 Clay street, San Francisco. dec19

Mining Notices--Continued.

Alamo Gold and Silver Mining Company.—Location of the Mine, Lyon County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fifth day of November, 1868, an assessment of twenty five cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No 319 California street, (Room No. 5 Hayward's Building) San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirty-first day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the thirtieth day of January, 1869, to pay the delinquent assessment, together with cost of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. POPE, Secretary.
Office, No. 319 California street, (Room No. 5) San Francisco. no28
☞Gold Hill News copy and send bill to this office.

Colorado Silver and Copper Mining Company, Arizona Territory.

NOTICE.—The Annual Meeting of Stockholders of the Colorado Silver and Copper Mining Company, of Arizona Territory, will be held at the Company's office, No. 713 Montgomery street, Room No. 40 (3d story), on MONDAY, DECEMBER TWENTY-EIGHTH, 1868, at 3 o'clock, P. M., for the election of Trustees and the transaction of such other business as may properly come before it.

nov14 B. W. MUDGE, Secretary.

Diamond Copper Mining Company. Location: Rockland District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-eighth day of October, 1868, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 40 Merchants' Exchange Building, California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the tenth (10th) day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty eighth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. A. COOLIDGE, Secretary.
Office, Room No. 40 Merchants' Exchange Building, California street, San Francisco. oc31

POSTPONEMENT.—The day for deeming stock delinquent on the above assessment is hereby postponed until the thirty-first day of December, 1868, and the sale thereof until Thursday, the twenty first day of January, 1869. By order of the Board of Trustees.

dec12 J. A. COOLIDGE, Secretary.

Great Central Mining Company.—Location of Works: Yuma County, Arizona Territory.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the ninth day of October, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
P Calhon	186	10	$25 00
Wm H Cleveland	313	25	62 50
Mrs Ann G Cummings	295	25	62 50
Jas H Foster	94	100	250 00
Jas H Foster	141	10	25 00
Jas H Foster	142	20	50 00
Jesse Gelb	73	25	62 50
Jesse Gelb	74	25	62 50
Jesse Gelb	75	20	50 00
Jesse Gelb	76	10	25 00
Jesse Gelb	78	10	25 00
Jesse Gelb	79	5	12 50
Jesse Gelb	80	5	12 50
S R Harris	294	50	125 00
S R Harris	299	50	125 00
S R Harris	313	50	125 00
Jas Kellogg	175	50	125 00
A J Jeghers	3	5	12 50
A J Jeghers	4	5	12 50
A J Jeghers	5	5	12 50
A J Jeghers	6	5	12 50
A J Jeghers	7	5	12 50
August Ludorff	241	10	25 00
Dan'l McLeod	290	90	225 00
Jno R Mas on	153	10	25 00
Camillo Martin	267	20	50 00
Ford H Rogers	329	65	162 50
Louis Vesaria	319	25	62 50
Louis Vesaria	320	25	62 50

And in accordance with law, and an order of the Board of Trustees, made on the ninth day of October, A. D. 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at their salesrooms, No. 426 Montgomery street, San Francisco, on the thirtieth day of December, A. D. 1868, at the hour of 4 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

O. D. SQUIRE, Secretary.
Office, No. 414 Montgomery street, San Francisco. dec5

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Hope Gravel Mining Company. Location of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of November, 1868, an assessment (No. 27) of one dollar ($1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 28 Merchants' Exchange, California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on Tuesday, the twenty-second day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eleventh day of January 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary.
Office, No 28 Merchants' Exchange, south side of California street, between Montgomery and Sansome streets, San Francisco, California. no21

Nevada County Gold Mining Company, Nevada County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the fifth day of October, A. D. 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Wm B Peake	425 to 450 inc.	26	$26 00
Wm B Peake	261 to 299 inc.	39	39 00
Wm B Peake	300 to 315 inc.		
	341 to 350 inc.	26	26 00
Unknown	144 to 245 inc.	107	107 00
Unknown	257 to 260 inc.	4	4 00
Unknown	350 to 408 inc.	53	53 00
Unknown	471 to 500 inc.	30	30 00
Unknown	91, 93, 420, 462	4	4 00

And in accordance with law, and an order of the Board of Trustees, made on the fifth day of October, A. D. 1868, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the Company, No. 9 Merchants' Exchange, San Francisco, Cal., on Saturday, the twenty-sixth day of December, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

W. AUG. KNAPP, Secretary.
Office, No. 9 Merchants' Exchange, California street, San Francisco. no28

Patrocina and Dolores Silver Mining Company, Guazapares District, State of Chihuahua, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the ninth day of December, 1868, an assessment of two dollars ($2) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, C. B. Gifford, N. E. corner of Second and Howard streets, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eighth (8th) day of January, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fifth day of January, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

C. B. GIFFORD, Secretary.
Office, N. E. corner of Second and Howard streets, San Francisco. dec12

Senator Silver Mining Company.—Location of Mine: Virginia City, Storey County, State of Nevada.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the second day of November, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificates.	No. Shares.	Amount.
Blake, Wm	63, 64	45	$22 50
Bell, Joseph	7	15	7 50
Barry, Robt	39	30	15 00
Carroll, J C	16, 17, 18	150	75 00
Corbett, John	35	60	30 00
Corcoran Wm	not issued	320	160 00
Downey, J F	58	5	2 50
Dillon, P W	32, 33, 34	150	75 00
Edwards, A L	4	30	15 00
Freeman, B H	44	23	11 50
Farrell, William	10	30	15 00
Greene, Jessie E	1, 2	80	15 00
Herlehy, Michael	26	30	15 00
Hamill, John	66, 67	30	15 00
Hernan, Frank	60	30	15 00
Malony, Martin	10	15	7 50
McMahon, Miss M	29	15	7 50
Macdonald, W W	43	22	11 00
McMahon, J M	not issued	15	7 50
Neeon, Andrew	12	15	7 50
Neagle, Wm	bal 56, 61	1393	696 50
Ockel, Chas	11	30	15 00
O'Donnell, Daniel	30	15	7 50
O'Neil, Margarette	46	30	15 00
Pendergrass, Wm	9	15	7 50
Perry, B F	57	5	2 50
Quigg, Chas	27	15	7 50
Schoeneman, Henry	5	15	7 50
Sibel, Michael	not issued	30	15 00
Wool, Bartholomew	36	30	15 00

And in accordance with law, and an order of the Board of Trustees, made on the second day of November, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, Cal., on the twenty-fourth day of December, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary.
Office, 408 California street, San Francisco. dec5

San Francisco and Castle Dome Mining Company. Location of Works: Castle Dome County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fifth day of November, 1868, an assessment of three cents per share was levied upon the capital stock of said Company, payable immediately, at the office of the Treasurer, A. L. Gladding, No. 420 Montgomery street, San Francisco, in United States gold and silver coin.

Any stock upon which said assessment shall remain unpaid on the twenty-eighth day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twelfth day of January, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

A. R. SMITH, Secretary.
Office, No. 428 California street, 3d floor, San Francisco no28

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TO MINERS.—William H. Murray, traveling agent for the Mining and Scientific Press, published by Dewey & Co., of San Francisco, is in town soliciting subscriptions for that paper. To the intelligent miner, a paper like the *Press* is particularly valuable, keeping him posted on the latest discoveries in reduction of ores, new machinery, etc.—*Grass Valley National.*

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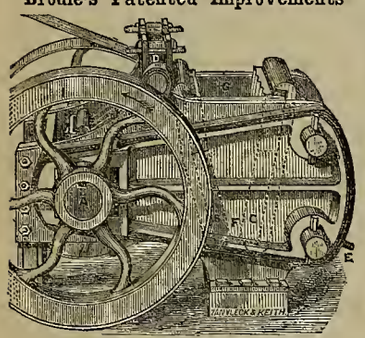
The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

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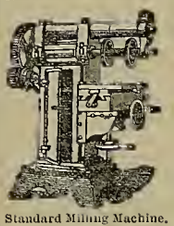
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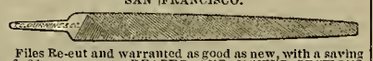
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More Light Concerning White Pine.

A mining engineer writes from a new district, not a thousand miles from White Pine, as follows:

I am engaged here in building a small smelting establishment, which, according to the desire of the mine owners is to be brought into operation this winter, notwithstanding my best attempts to persuade them of the better policy of deferring active operations till next summer, and meantime developing properly their mines. But it is an old story, which yet is always enacted anew—and whosoever he the present actors, it is their purses that suffer. Regarding White Pine, I spent several days there four months ago. Little work had been done at that time; and as my visit was not a professional one, I did not take much pains to investigate closely the geological and mineralogical circumstances. The following data, however, are reliable, so far as relates to the ore deposits:

Treasure Hill, as well as the White Pine Mountains proper, trend due North and South. The limestone strata, constituting the body of the mountain masses, dip 20° to 25° towards the West. In consequence, the eastern slopes of the mountains are very steep, and the western very gradual, as at Chloride Flat. The limestone is more or less metamorphic, (crystalline and dolomitic), showing stratification only in general aggregates.

The northern point of Treasure Hill is formed of a strongly ferruginous quartzite, which I think occurs also in places on the eastern side. This quartzite is, according to my judgement, a metamorphic porphyry. In other districts similarly constituted geologically, (as at Reveille) where limestones and quartzites occur, I have traced it distinctly through several transitions, from the one in to the other.

In the vicinity of the quartzite mass, (near Hidden Treasure) the limestone passes into a thick bedded, yellow marl schist. In other districts I have observed the same occurence. At the southern end of Treasure Hill—quite at its foot—there is observable a substratum of thin-foliated clay slate, underlying the limestone.

The ore, I shouldsay, decidedly, does *not* occur in veins, but in irregular deposits, of which there are to be distinguished two kinds, viz., vertical and horizontal deposits. Hidden Treasure is a vertical deposit, or perhaps a "stockwerk." The Virginia, according to appearances at that time, was the same. The Eberhardt and Keystone, at the southern end of Treasure Hill, are vertical deposits, being horizontally of comparatively inconsiderable dimensions.

Chloride Flat contains a number of horizontal deposits in a zone of the limestone near its surface, in which the general location of the ore runs with the stratification of the limestone. The Eberhardt and Keystone mines are situated at a far lower ore-level than Chloride Flat; so is the Virginia. Whether deeper ore-zones occur underneath Chloride Flat, is unknown. On the steep eastern flank of the mountain, nothing has been found, thus far, I believe, which would justify that conclusiou; but on the southern side there appear to be numerous branches, *vide* the locations below the Eberhardt.

On Chloride Flat the ore was found to extend to the surface at only a few places; in most cases it was found at a depth of from 5 and 6, to 20 feet.

The average content of the ores, if we do not include those of the Eberhardt and Keystone, is not great, by any means. Though rich nests have been found here and there, the general average cannot be estimated at more than $20 to $100 a ton.

Advantages that may be mentioned in favor of White Pine as a mining district, are, 1st.—Its favorable local conditions. 2.—Great quantities of ore at a small depth. 3.—The character of the ores; being, in most of the mines, such as to admit of amalgamation without roasting, with splendid results. I have extracted 90 to 94 per cent. of the silver of the White Pine ores, as chloride.

ACCURACY OF SHOOTING.—The barrel and its rifling are intended to give direction to the bullet and to confine the power imparted by the liberation of the gases, until this direction is assured. When these are assured the benefit of the barrel's length ceases. In common use it is found that a barrel of 20 inches is as good as one of 32 inches in length. The ordinary Colt's pistol, navy size, barrel eight inches in length has been known, when well constructed, to project a ball accurately a distance of three hundred yards.

Mining in Placer County.

Bath (formerly Sarahville), Placer County, is the liveliest little place that I have seen through these parts. There are two mills running.

THE PARAGON MILL

has twenty stamps; it is owned by Wright & Day, obtains its material out of a tunnel 2,600 feet long, and is doing well. A clean up was made on Sunday last, from a week's run, night and day, and the result was $2,600.

THE ROUGH GOLD COMPANY

are in 2,000 feet; they are working only in the day time at present, though it is the intention to run both night and day after next week. The mill has ten stamps, and produces satisfactory results in the way of substantial returns. More men will be put to work in the mine in about two weeks. I went through the mine; it looks very well. I could see specks of gold in the gravel.

FOREST CITY

is at a stand-still at present, but they are expecting to have lively times in the rainy season. All the mills are standing still.

THE BOYS AT LAST CHANCE

are making arrangements to get some men to carry the mail up to them this winter. Six miles from Last Chance a good quartz vein seventeen inches in width, has been struck by R. M. Richards. The prospects are very good. He is in only four feet, but has taken out over $100, by pounding the ore up in a mortar. W. H. M.

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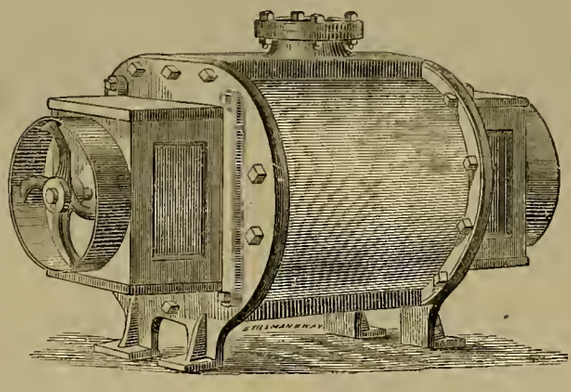
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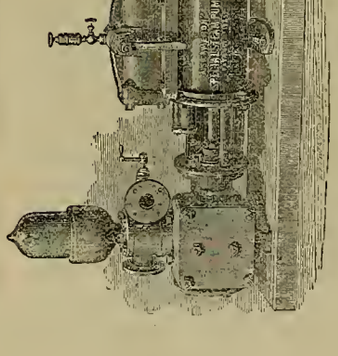
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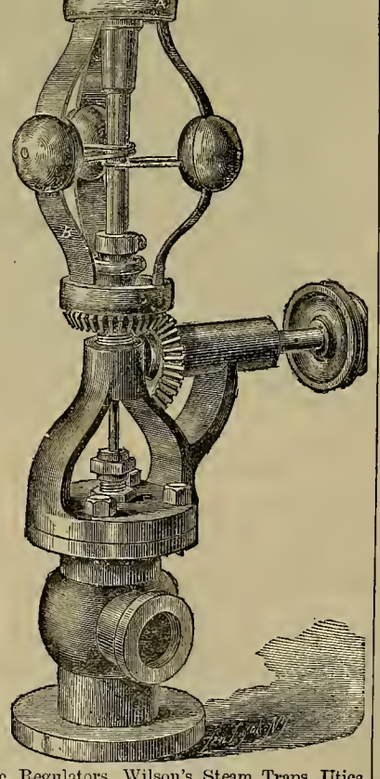
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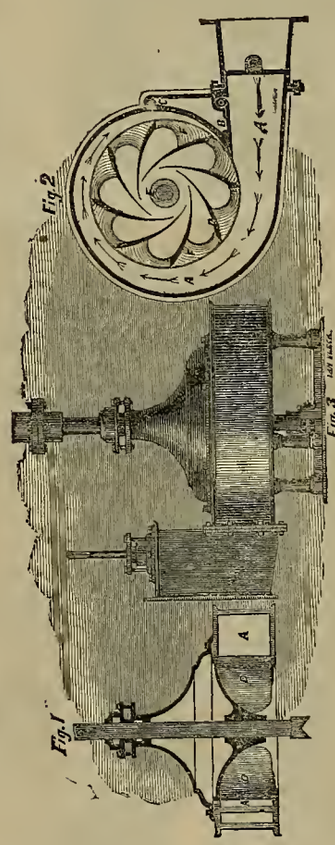
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All of the above mentioned articles were on exhibition at the Mechanics' Sixth Industrial Fair, and the attention of the public is respectfully called to the merits of each article as set forth.

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A Journal of Useful Arts, Science, and Mining and Mechanical Progress.

BY DEWEY & CO., Patent Solicitors. SAN FRANCISCO, SATURDAY, DECEMBER 26, 1868. VOLUME XVII. Number 26.

SEE INDEX on last page, which embraces the contents of this number. A perusal of this carefully prepared index will give the reader some idea of the large amount of varied useful information contained in six months' issues of the MINING AND SCIENTIFIC PRESS. The editorial labor bestowed on the PRESS is equalled by but few weekly papers in the United States.

The Sea Wall of San Francisco.

ENGINEERING DATA REGARDING THE CITY FRONT.

The accompanying drawing exhibits a transverse vertical section of the sea wall and wharf now in progress of construction along the water front of this city.

No other question can be of such vital importance to the approaching future of our great city and its destined commerce as the proper construction of a permanent pier and harbor frontage. We found the sands of Yerba Buena pure, and the transparent waters of the bay rippling cheerfully in 1849. We are bound, from motives of sanitary prevention and of trade, no less than from motives of pride, to see to it that we do not make out of it a permanent sink of pollution—a consummation which would bear down to posterity a stigma upon the race which, having come to gather gold, built filthy cities in clean places, unconscious of their destiny.

Fortunately it is not necessary to argue the point. Citizens, merchants and legislators are agreed that a first-rate sea wall *must* be made of it. George Oulton, in 1863, drew the bill; and the Harbor Commissioners since then have been carrying out the work, as below described.

The seeds of all true national greatness and heroism, like that so distinctive in Greece and Rome, and in the history of England, have invariably been laid in the republican principle, the substance and purport of which is, or ought to be, that individuals and cliques shall not be suffered to run counter to the general welfare. Wharf-holders and officials of the sort whose faces indicate an ownership of lax and oily consciences, must not be permitted in any manner to thwart us in accomplishing eventually that which the situation and necessities of San Francisco imperatively demand—a solid stone city front.

By Act of the Legislature, all the streets in front of the city have a uniform width of 150 feet, the outer half, or seventy-five feet of which is under the jurisdiction of the Harbor Commissioners, acting for the State of California. The following description, condensed from the specifications, explains the character of the work:

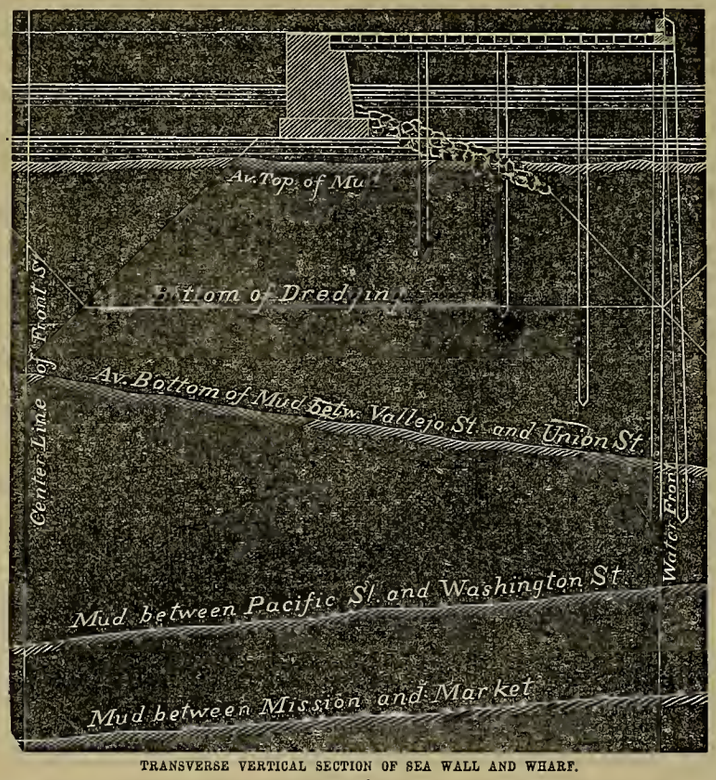
A pit or channel, sixty feet wide at the bottom, at a level of twenty feet below mean low tide, is excavated, and in this channel is placed the foundation of the sea wall, consisting of a rock embankment thirteen feet in width on top, at the level of mean low tide. The outer extremity of the excavation corresponds with the city front, and, consequently, at this point, the slope of the rock embankment is twenty feet below mean low water. The stones are thrown *pell-mell* into the bay, beginning on the center line of the embankment, and are allowed to settle until they reach a firm foundation.

When it is ascertained that the settling has ceased, a body of concrete, two feet in thickness and ten feet in width, is laid upon the embankment, and upon this concrete is constructed a wall of solid masonry. This wall is seven feet and three inches in width at the bottom, and nine feet and eight inches in hight. It is vertical on the land side, and on the harbor side has a batter of two inches to the foot for seven feet and eight inches, where there is an offset of two feet, forming a recess to receive the ends of the timbers of the wharf. From this offset the wall is carried up vertically two feet, making it four feet in width on the top.

The masonry will have hammer-dressed beds and joints, and the vertical joints will be dressed back twelve inches from the face with a bevel of one inch, to secure the stone from displacement by the action of the waves. The mortar joints on the face not to exceed one-fourth of an inch in thickness; the face of the wall not to be hammer-dressed, but to present a rock face, except along the joints, which shall be dressed with a draft on each stone of three-fourths of an inch in width.

The stone will be dressed before laying, and will not be moved after being placed in the wall.

The bench of two feet in width, and the top of the wall, will be hammer-dressed to a uniform surface; the upper course or coping will be of granite for the whole width of four feet, and the stone will be so placed as to show on the top of the wall



TRANSVERSE VERTICAL SECTION OF SEA WALL AND WHARF.

The top of the wall is four inches below the official grade of the city, and the face of the wall at the top is forty feet distant from the line of the water front.

The wall will be of the form and dimensions shown in the above drawing, and will be of the best quality of first-class masonry. It will be built in regular courses of the following thickness, beginning at the bottom, namely: twenty, nineteen, nineteen, eighteen and sixteen inches, to the offset of two feet, above which there are two courses of twelve inches each, making in all nine feet and eight inches in hight.

The front will consist of Folsom or State Capitol granite, will be laid with alternate stretchers and headers, and each course will break joint with the course below it. No header will be less than five feet in length. The stretchers in the three lower courses will be not less than two feet, and in the remaining courses not less than eighteen inches in width.

no joint more than one-fourth of an inch in width.

The rear of the wall will be constructed of other first-class stones, to be approved by the Engineer and Board of Harbor Commissioners. The stone will be laid on horizontal beds, and the front and back of the wall carried up simultaneously. They will be well bonded together, and every course thoroughly grouted. The whole masonry will be laid in the best quality of hydraulic mortar, composed of three parts of sand to two parts of Benicia cement, or cement of first quality, to be approved by the Engineer, and all the joints on the face will be pointed with a cement of proper consistency.

The action of the waves will form the face of the rock embankment approximately as represented in the drawing. If the embankment should be washed away to a steeper inclination, it will be replaced before building the protection wall. If it shall not have settled or washed away down to the line represented, the surplus material will be removed.

As soon as any portion of the granite wall is built, the corresponding portion of the protection or *rip-rap* wall in front of it will be constructed in the form represented in the above drawing. The *rip-rap* wall will be three feet in average thickness, and the upper surface will have an inclination of one vertical to three horizontal, and will, at its lower end, be at least seven feet below mean low tide. At its junction with the granite wall, the upper surface will be at least four feet above mean low tide.

It will be constructed of hard rock, not liable to be broken or decomposed by the action of the waves, to be approved by the Engineer and Harbor Commissioners, and no stone will weigh less than five hundred pounds.

The stones will be lowered to their proper position by means of derricks, their ends facing the prevalent waves, and will be well wedged together.

A sewer is designed to pass through the middle of every street intersected by the sea wall. Through the wall a brick sewer with granite facings will be constructed; and through the earth embankment, from the termination of the brick sewer to the outer slope of the embankment, a timber sewer. The form and dimensions of the sewers will correspond with those used by the city in the respective streets.

The back of the sea wall will be forty-four feet distant from the line of the water front, leaving thirty-one feet to the middle of the street. This space back of the wall is to be filled in with earth embankment, the inner side having a slope of one and a half horizontal to one vertical.

Sufficient funds having been received by the State Harbor Commissioners to pay for the construction of a portion of the sea wall, in May, 1867, William J. Lewis was appointed Engineer of the Board, and the specifications having been prepared by him and approved by the Board, three sections were advertised for contract. The money in hand not being sufficient for the construction of the three, the proposition of A. H. Houston, he being the lowest bidder for the two upper sections, was accepted, and a contract was executed on the 23d of July, 1867, with him for the construction of the first division from Union street to Vallejo street, in length 650 feet, at $217 per lineal foot, or for the aggregate amount of $141,050; and also for the construction of the second division, from Pacific street to Washington street, in length 743 feet, at $278 per lineal foot, or for the aggregate amount of $206,554.

The stone and earth embankments for the above sections have been completed, and to expedite the settling of the embankment, a space twenty-five feet in width east of the water front, at the depth of twenty feet below mean low tide, has been excavated. Also for the accommodation of the business of the port, a wharf has been built on the first division between Union and Vallejo streets, and has been several months in use. This wharf is constructed on the general plan, but so that only a small portion of it need be taken up, to allow of the construction of the vertical and protection walls. The granite required for the vertical wall has been quarried and dressed, and the building will be commenced early in the ensuing year.

[Continued on Page 404.]

Communications.

In this Department we invite the free discussion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Nevada Silver Ore Deposits.

CHARACTER OF THE COMSTOCK LODE.

My object now is to present my views,—to give my opinion as briefly as possible,—with regard to the Comstock Lode as a true vein; and before proceeding, I will state that this opinion shall be based principally on developments made in the various mines located on this lode within the past year. When I compare recent developments in the various mines here, with my experience in Central Mexico and other mining regions, I am forced to believe that the Comstock is not a true vein, and my opinion is conclusive that another six months or year will demonstrate this fact to the satisfaction of every experienced miner who will take the trouble to investigate this matter properly.

I believe the Comstock Lode, so called, now presents every indication of belonging to that class of metalliferous deposits known as beds or segregated veins. These segregated veins differ from true veins in many respects, which I have not time to describe; but practically speaking, the most important features of this class of deposits are: *First*—they almost invariably lie parallel with the stratification and clevage planes of the formation in which they occur—which is the gneissic and schistose portion of the metamorphic palæozoic rocks. *Secondly*—they cannot be depended upon in depth, for it seems they are almost always richest near the surface, frequently terminating altogether at no very great depth. Nor is the metallic matter distributed through them with as much regularity as in true veins; forming often a series of pockets of ore, ranged in a linear direction, and connected by mere threads of ore, or barren veinstone.

There are a great many illustrations of this form of deposits, but as the most striking ones to correspond with the Comstock, I will first mention the celebrated mines of Corro Pasco, in Peru. The superficial yield and development of the principal mines in this district has been enormous, but all the ore deposits, which, for a considerable depth below the surface, yielded so immensely, have grown sensibly poorer in descending upon them. Rivero, and other learned mining engineers, consider the Pascos of Santa Rosa, one of the richest mines in the Pasco District, not to be in a true vein; but a bed, the hanging and foot-walls being of different character, and the gangues having no crystalline or comby structure.

The Potosi mines of Bolivia, have likewise yielded immensely from the rich bonanzas found near the surface, and at one time the average annual yield of these mines exceeded the annual product of the Comstock; but when the extensive and rich bonanzss found near the surface were exhausted, the anuual yield fell off to less than one million dollars, the lower levels failing to produce pay ore. The Rammelsberg, in the Hartz, furnishes a still more striking illustration of the form of segregated vein deposits. At a depth of four and five hundred feet, this vein had a productive width, sometimes exceeding 150 feet, and 2,000 feet in length, but at the depth of 800 feet, the vein gets poor, and narrows down from 150 feet to 20 feet in width, and from 2,000 feet to 700 feet in length. This vein also dips with the stratification of the inclosing rock, and the body of the deposit is found very irregular, the ore occurring in bonanzas.

Professor Castello, of the Mexican College of Mines, in a learned essay, which was submitted to the courts, says that in following a vein, if its dip varies much from forty-five degrees, there is reason to believe that it is not a true vein, which will soon lose itself. Other learned mining engineers, who have recently examined the Veta Madre, of Guanajuato, Mexico, pronounce it a bed, or segregated vein, as it has a direction coincident with that of the adjoining strata, and gets narrow and poor as depth is attained. I could call the attention of the reader to numerous other instances where veins of this character occur, and where they are invariably found either too poor, or giving out altogether at no great depth below the surface; but it is useless. Unlike the Comstock, their development and product for a certain depth below the surface, has been enormous.

A careful study and close observance of the character and pitch of the Comstock Lode, as at present explored, must at once suggest some very important points for consideration. The first and most important one is, that this vein, as now shown in the deep levels of the Chollar, Gould & Curry, Ophir, Bullion, Alpha, Belcher, and other mines, must soon change its extraordinary eastern dip and become more vertical, or dip west into the mountain, or else no-pay ore is likely to be found below the present levels of the various mines, and the theory of this being a true vein, explodes, and must soon fall to the ground.

Possibly, the vein, when it changes its dip from west to east, about 300 feet below the outcrop, may have been faulted by a dyke or bed of hard rock, as in the case of the Chañarcillo mines, in Chili, where at certain depths the ore is found to be cut off by *mesas*, or tables of hard porphyry; but this does not seem probable, as several drifts have already been run a considerable distance west into the hard feldspathic greenstone, of which the mountain range west of the vein is chiefly composed. Thus far, no evidence of a fault of this character, or a change in its dip, can be discovered; on the contrary, at a depth of 800 and 1,000 feet below the outcrop of the vein, in some instances, as in the Chollar, Belcher, and other deep levels, the foot-wall comes sweeping east, under the vein, at an angle of 80°, apparently meeting the east or hanging wall, and cutting out the quartzose matter entirely. The general course of the Comstock is north and south dipping east, at a very high angle, and invariably with the stratification of the inclosing mountain rock. The extreme width of the vein in some places near the surface appears to exceed 600 feet, while at a depth of 900 and 1,100 feet, it narrows down to fifty and thirty feet, the gangue at these lowest points carrying little or no quartz, and if quartz is found, it is generally of a hungry-looking, worthless character.

The ores are the various and complex sulphurets and chlorides of silver, which are found in kidney-shaped nests and deposits of varying extent, more frequently lying close to, and parallel with the hanging wall, and generally connected by mere threads of ore, or barren veinstone. As far as I am able to judge, but a limited amount of low grade ore remains in the levels of the various mines now open, and unless pay ore in sufficient quantity is soon found in deeper levels, there can be no reaction in the stock market, founded upon a firm and healthy basis.

The theory and principal subject of this letter is one of considerable importance, comprehending as it does the very basis of future prosperity in mining here; but they are my own views and conclusions, drawn from comparisons and personal experience and inspection. I give them to the public, hoping they may be found of interest to the readers of this article, and believing that every person has the privilege of expressing his honest opinions, especially in matters of this kind.

Having recently visited the new district of White Pine, in southeastern Nevada, I am also enabled to give you my opinion concerning that interesting country. [Next week.—Ed.]

Instruction in the Industrial Arts. A practical philanthropist in Massachusetts has founded a free industrial institution, to provide instruction for young men in branches not taught in public schools; and for this purpose there are departments of farming, mechanics, engineering, architecture, metallurgy, chemistry, mining, teaching, etc., etc. Several hundred thousand dollars are already provided, and one generous donor has given a spacious machine-shop, completely fitted and furnished.

[Written for the Mining and Scientific Press.]

Our Idaho Correspondence.

FROM A RESIDENT CONTRIBUTOR.

Editors Press:—Your columns seem to contain but little news, and that only in a condensed form, in regard to Idaho Territory, and although even those papers that a year or two since took the greatest pains to try and ignore this as a terra incognito, and would have had it looked upon as the ancient Gauls did on the Island of Britain—as too full of horrors for civilization ever to reach—are beginning to recognize that there is such a place as Idaho, and that the said Idaho may possibly have a "few" ounces of gold and silver scattered throughout it, yet they fail to see its value, and refuse to allow it any important position amongst the gold and silver-producing localities of this continent.

First, then, Idaho Territory extends from Nevada on the south to the British possessions on the north; and from the Rocky Mountains on the east to Oregon on the west, and is large enough for at least four good-sized States. The mining localities in the southern parts of the Territory are, Owyhee County, Alturas County, Boise County, and now Ada County is also being brought into the "ring."

Yuba, is the principal district in Alturas County, and the Leonora, the most remarkable lode there. The gold is in leaves of about the thickness of ordinary writing paper, with layers of quartz between, and this streak is from two to six inches thick, and is reported to be widening. Mr. William Defrees is working it with a 10-stamp mill. The much-spoken-of Atlanta, is a lode very rich, sometimes even 40 per cent. in silver; but there is so much antimony with it as to render it very difficult to work, and I am informed the owners say that they cannot save but a small proportion of the silver. The Lucy Phillips Company, (English) Dr. Edward Bishop, director in charge, purpose to rent their mill at Quartz Gulch, in the spring, and to go ahead.

The Monarch Company are crushing Atlanta rock, and report good results. Several lodes have been much developed during the past summer.

The Pacific has been opened by shafts and tunnels, over a length of 2,700 feet, and the vein found in various places at fifty to seventy feet perpendicularly below the ground. The lode is from fourteen to twenty feet wide, and fourteen tons taken from the shaft of Johnson & Co., worked in an arastra, yielded $22 per ton in gold, but by this, all the silver, which an assay shows is a large percentage, is lost, and much gold also. This was rock just as it came from the shaft, and was not picked over.

The Golden Wreath also is in the same position, having been opened and explored for a continuous distance of nearly 3,000 feet, and the shafts, tunnels and cuts, at various points, are from ten to forty feet deep, showing the true vein with its smooth casings. A test of a few hundred pounds in a mortar yielded nearly $25 per ton.

The Great Mogul and Olive Branch have been also so far developed as to show that they are true veins.

The Varieties is another lode that stands very high, but the owners, William L. Johnson & Co., will not part with it, except for cash. I saw a bullion brick from it, valued here by our assayers at $402.50, the result of ten tons worked in an arastra.

The visit in August of H. Gesheing, Esq., of the Lucy Phillips Co., of London, will benefit this camp, as that gentleman was much impressed with the wealth he saw, only wanting money to take it from its natural vein and put it into circulation.

The Owyhee County mines, having had the time and capital expended on them, are better developed, but are not in point of true richness anything ahead of Yuba.

The Golden Chariot is almost fabulously rich, and yet the lodes are small, and cost much more to work than at Yuba. For instance, at Yuba, a 400 foot tunnel will strike the Pacific lode at least 300 feet under ground, and ore can be quarried and delivered at the mill, (if erected below it on Grouse Creek) for $3 per ton, at present high rates of labor, ($5 per day). Again, the advantage of wood and water is great over Owyhee, but the nearness to traveled trails was what brought Owyhee out first. Now, however, the railroad will pass not over sixty miles from Yuba, and will be the making of that place, and bring wealth to it only to take away for distribution those precious metals that for untold cycles have been waiting to be called forth, for good and for evil, at the hand of man.

The climate of Yuba is preferable to Owyhee. At Yuba, the warm springs keep it more temperate, whilst at Owyhee, the snow-storms and continual and terrific winds during winter, are evidenced by the few trees they have. Still Owyhee, as far as wealth of ore is concerned, stands high in the mining districts of the world, and will yet, when it gets out of its infancy, enrich many.

The mines of Boise County are apparently doing better than formerly, and in all probability, as managers understand more fully the nature of the work they are at, it will turn out good results. The Elk Horn Company are doing well.

But I am making this letter too long and will close, but you may look for a renewal of the reports of this Territory, with full and complete details of all the leading mines in a series of letters, at distances of about two weeks each.

Yours, respectfully, Alturas.
Boise City, I. T., Dec. 9th, 1868.

Land Office Report for 1867, by Jos. S. Wilson, Commissioner. The Land Office Report for 1867 is an octavo volume of 171 pages, containing the reports of the U. S. Surveyor Generals, embracing a large amount of valuable information concerning the resources of the new sections brought to their cognizance through the actual surveyors; together with a very large map of the United States, showing the present status of the public surveys, the boundaries of the land districts, and representing as far as possible, all the known mineral locations and discoveries, especially westward of the great plains. About half of the Report is of a general character, containing valuable mineralogical and geological notes and statistics, and embracing, amongst others, articles on the following subjects:

Homestead policy considered with homestead rulings; results shown.

Relation of foreigners to real estate in the United States. Laws respecting naturalization.

Laws respecting the suppression of timber depredations and measures taken in that respect.

Swamp and overflowed land concessions; results submitted; further legislation recommended.

Geological survey of Nebraska; results reported under legislation in that respect.

General views as to the extension of such explorations.

Pacific slope; its extent; also its importance shown in an agricultural, mineral, and commercial point of view.

Relations of the United States to the trade of the Orient.

An account of the gold and silver producing countries, the amount taken from the mines since the discovery of America, with a summary of the mineral wealth of the United States.

Freaks of the Morning Star.—At Virginia City on Nov. 29th, the morning star rose of a blood-red color and with a bright white halo, apparently five or six feet in diameter surrounding it. From the lower part of this halo there extended downward a tail, apparently some eight feet long and two feet in width at the upper part. This tail was slightly curved, of a saber shape, bluntly rounded at the lower end, and both it and the halo appeared to be filled with thousands of small and exceedingly brilliant stars. This strange sight lasted some 15 or 20 minutes, or until the star had risen so high that the tail of the halo appeared to be two or three feet above the top of the crest of the distant range, when it suddenly faded out. As the homeward bound miners with dinner pails in their hands, stood gazing upon the singular phenomenon, they predicted earthquakes, hurricanes and all sorts of spasms and convulsions in earth and air.

Mineral Resources of Alabama.—A survey is recommended by Gov. W. H. Smith, of the Coosa, Cahata and Upper Warrior rivers, on or near whose shores some of the richest coal and iron mines of the State are situated. Such surveys would, he thinks, promote the interests of the State by attracting northern capital to open the navigation of these rivers and develop the mining resources of the districts lying upon or near their courses.

Mechanical.

THE MONCRIEFF BATTERY.—The English papers are eloquent upon the invention of Capt. Moncrieff. A gun weighing six and a half tons is handled as easily as a rifle is handled by a sharp-shooter. It is brought down behind an earth parapet to be loaded, and elevated above it to be fired. This is accomplished simply by the *recoil*. The very thing that has always been the greatest trouble to artillerymen is, by this invention, made useful. The discharge of the gun causes it to roll easily backwards and downwards, as a rifle would do if fired when poised upon the back of a rocking-chair. It is caught at the proper point by mechanism, and held while it is being loaded; being then released, a counterpoise causes it to rise as easily into its place above the parapet, where it is discharged. Its horizontal position is maintained throughout. The gunners are never exposed; even the *aim* may, by means of reflecting sights, be taken without a man showing his head. The inventor proposes to place the gun in a pit, like that used by riflemen. Fancy a six-ton monster suddenly rising from beneath the surface of the earth, belching forth its fire, and as suddenly disappearing into the hell from whence it seems to have come!

GJER'S STEEL-MAKING PROCESS.—In this process, as described in *Engineering*, "puddle bars or other iron, or steel bar stampings, iron or steel scrap, are cut up and are dipped into a mixture composed by taking, say, 100 parts of coal tar, 50 parts iron ore, 25 parts manganese ore, and 25 parts of slacked lime, with more or less of oxides or of lime, according as a harder or a softer product is required, or, if necessary, more carbon, in the shape of charcoal. After this prepared material has been dried, it may be melted in crucibles or on the bottom of a reverheratory furnace; but it is preferred to use a continuous molting steel furnace. For this purpose, Mr. Gjers employs a Siemens regenerative gas furnace, formed with a deep receptacle in the center to contain the liquid steel; and either over this receptacle, or by preference around or on each side of it, he proposes to set one large tube or retort, or preferably a number of smaller tubes or retorts, made of material capable of resisting great heat."

THE DUROMETER.—M. Behrens, a French engineer, has given this name to a machine which he has invented for the purpose of testing the hardness of metals by drilling. The shaft which drives the spindle of the drilling tool has a worm upon it, that moves certain mechanism connected with a signal gong, which indicates the number of revolutions made by the drill. Many French contracts for rails now contain a condition that they are to be tested by this apparatus.

TO KEEP BOILERS CLEAR FROM SOALE. The *Scientific American*, in conformity with the experience of one of its correspondents, recommends that the drippings of the exhaust pipe, and the condensation of the safety-valve blow-off, and of the cylinder, be all saved and used to fill the boiler after blowing off. The effect in loosening scale will be surprising. The correspondent alluded to attributes this to the oil used about the cylinder, which becomes mixed with the exhaust water. A surface blow-off is also recommended.

IRON TELEGRAPH POSTS.—On the Creusot line of railway the wooden telegraph poles have been replaced by iron supports, firmly fixed in posts of stone solidly fastened in the earth. The supports are composed of three rods of flat iron set triangularly at a slight distance from one another, so that the angles of the triangle may form a sort of open work, being bound to each other at regular lengths by loops of iron riveted to the bars, and forming a substantial small column of very elegant appearance. The insulators are fixed on the rods by means of a plate and two rivets. These posts are very firm; they bear the lines admirably, and are of almost illimitable durability.—*Colliery Guardian.*

MARINE ENGINES.—We condense the following from *Engineering*: "All competent engineers are fully aware that in the running of steam vessels not more than one-fourth of the power of the coal is utilized commercially in work. There is the heat wasted in radiation, the heat which goes up the chimney, and the coal lost in the ashes. There are all the losses due to the difficulties in attaining the theoretical advantages of high expansion—difficulties represented by huge cylinders or excessive speeds of piston, and by condensation within the cylinder itself. And there are the losses in the friction of the engine and screw shaft *per se*, the additional friction due to the load, the cohesive resistance of the water opposed to the screw and the slip of the screw itself. Besides all these there is still the large loss, in the majority of steamers, of the heat contained in the brine, amounting to one-third or one-half of the whole, blown from the boilers, fed as they are from the sea. * * * The simplification of the marine engine has been carried almost as far as is apparently possible, unless a better fortune should send us at last a really good rotary engine, and how many, many trials have been made to attain this *ignis fatuus!* As for the propeller, talk as we may of negative slip, there must always be a certain recession of the water from any propelling instrument pressing against it.

We are to look for the possibility of further improvement chiefly to the gradual increase of pressure, expansion, and piston speed. There are experiments well worth trying, with the object of extending the application of wood bearings, and it is probable that the marine boiler might be further simplified, and the efficiency of its heating surface increased. The present comparative excellence of steamship machinery has been attained by repeated and often bold experiments.

ANOTHER STEAM HAMMER.—The London *Mining Journal* thus describes a steam hammer invented by a Sheffield man: "The whole of the working parts usually liable to derangement are kept out of harm's way by converting the piston rod into the slide valve. The hammer being upon the anvil, steam is admitted through the piston rod to the under side of the piston, which is lifted thereby until the passage connecting above the piston opens to the steam inlet, admitting steam over the piston. Notwithstanding this, the upward stroke continues until the passage which has supplied the steam to the under side reaches the exhaust port. The upper end of the stroke having been reached, the pressure of the steam supplied above the piston combines with the weight of the hammer to carry it down with great force, until the passage connecting with the under side of the piston again reaches the steam inlet. The admission of steam, and consequent speed of the hammer, is regulated and governed by a separate regulating valve, operated by the foot of the workman."

MOISIC IRON.—It is probably not generally known,—says the London *Mining Journal*,—that the Moisic (Nova Scotia) iron surpasses in strength the celebrated Low Moor iron by nearly five per cent. Its capacity for elongation is seven and one-fourth inches in ten feet. The analysis of M. Poinsat shows the ore from which it is manufactured to contain—magnetic oxide of iron, 51·12; protoxide of iron, 34·60; titanic acid, 11·27; and silica, 3·01 per cent. For boilers and iron shipbuilding, it is a very superior quality of metal. With regard to the facility for obtaining a permanent supply, Dr. Sterry Hunt writes that the bed of magnetic ore at the Moisic is of immense extent, readily accessible.

LIFTING LOCOMOTIVE DRIVING WHEELS. An apparatus has been patented by J. M. Ure, of Glasgow, which is designed to enable the engine driver to prevent the rotation of the driving wheels and movement of the pistons when an incline is being ascended, or when the locomotive is being brought to a stand-still on approaching a station. The apparatus is applicable to any locomotive that is sufficiently supported on other wheels when the driving wheels are lifted. The lifting is done by means of two extra cylinders, to which steam is admitted.

Scientific Miscellany.

THE AMIENS GRAVEL.—A paper by Mr. Alfred Tylor, F. G. S., published in the Quarterly Journal of the Geological Society for May, and given in full in *Silliman's Journal* for November, with several illustrative diagrams and two elaborate plates, takes ground in regard to the quaternary deposits of the Valley of the Somme, which is opposed to the view heretofore advocated by Sir Charles Lyell and other geologists of high reputation. These gentlemen have asserted, among other things, that the Valley of the Somme was excavated some forty or fifty feet since the deposition of the upper valley-gravel at Amiens, etc., and before that of the lower. Also, that both of these gravels were fossiliferous. The effect of these assertions was to refer the remains of man back to an indefinite date before the historical period. Mr. Tylor's conclusions, on the contrary,—distinctly proved, as he considers, by the diagrams, etc., aforesaid,—are that the chalk valley of the Somme was excavated exactly to its present form prior to the deposition of any of the gravel now lying in it; that this gravel is partly derived from *debris* brought down by the Sommo and the other existing rivers, and partly from material from the adjoining high grounds washed in by land floods; and that the quaternary deposits here and elsewhere indicate a Pluvial period, immediately preceding the true historical period. The illustrations accompanying the paper are from actual survey.

ACTION OF SUNLIGHT ON BISULPHIDE OF CARBON.—O. Loew, chemical assistant in the New York City College, gives the result of some recent experiments in *Silliman's Journal*. A quantity of the bisulphide was exposed to the sun in sealed tubes. Decomposition took place gradually, and a brown insoluble substance was formed. After two or three months the tubes were opened. The water was slightly acid in its reaction, owing to the production of a trace of formic acid. A filtrate contained free sulphur dissolved in the bisulphide of carbon; this compound corresponded with the sesquisulphide of carbon discovered by Mr. Loew two years ago. It was insoluble in water, alcohol, ether, chloroform, bisulphide of carbon, and oils, but soluble with decomposition in a boiling solution of caustic potassa.

TO DEODORIZE SULPHIDE OF CARBON.—Millon says: "It is only necessary to agitate the liquid well with an equal volume of milk of lime, and then distill off at a low temperature. Litharge and copper, and zinc shavings, remove the compounds which give the bad odor equally well, and may be used in place of the lime. Simple agitation with these bodies will take away the greater part of the smell. Purified by either of these methods, the sulphide only possesses a faint odor somewhat resembling that of chloroform, and it may therefore be used to remove grease, like benzine. It must be mentioned that, left to itself, the sulphide soon again acquires a bad odor, but this, it seems, may be prevented by keeping a little litharge or some copper or zinc shavings in the bottle."

LIFE AFTER DECAPITATION.—Dr. Claude Bernard has made experiments of which the following is one: If oxygenized blood be injected into the arteries of the neck immediately after decapitation, warmth and sensibility return, the eye gets animated, and displays such perception that an object shaken before it will cause winking of the eyelids and movements of the eyeballs as though to avoid injury.

A NEW EXPLOSIVE.—The artificial saffron invented by Mr. Mittenzweg, of Pöblitz, intended for tinging vermicelli, has proved to be explosive—a box of the compound having exploded by a spark from a pipe whilst it was being opened. Mr. Chevallier, of the Société d' Encouragement, has been unable by analysis to discover its composition. The substance ignites as readily as gunpowder, but its force of projection is 40 per cent. less.—*London Mining Journal, Nov. 7th.*

The Cucuyo.

This insect, the West Indian Fire Beetle, is described in an interesting paper contributed to the October number of the *American Naturalist*, by Dr. G. A. Perkins. We quote a portion of the paper:

"An examination of the peculiar matter upon which their power of luminosity depends, or in which it manifests itself, shows it to be composed, in a large proportion, of fat, in which are found some air-tubes and a very large supply of nerves. This fatty matter is of a chalky whiteness, and, when spread upon a slip of glass and examined by the microscope, gives the characteristic appearance of fat globules. When rubbed upon paper and warmed, it leaves a greasy stain; and when the whole mass is digested in sulphuric ether, the fat is dissolved out, leaving branch-like masses of nerves in great abundance, and also the tubes of the air-vessels. The mass of luminous matter upon the abdomen is many times greater than that upon the thorax, and is covered externally by a very delicate and flexible membrane, which forms the joint, and reaches completely across the animal. Inside it has not so distinct a boundary, the vessels of other portions of the body being continuous with it, the luminous matter still being quite distinct. In the thorax, this same substance is found lying behind the two oval, convex, transparent membranes, of a horny nature, being separated from it by a very thin transparent membrane, which acts as a special envelope, and is also supplied with nerves and air-tubes, as in the abdominal portion.

It becomes evident to any one who attentively examines these insects, that their luminous power is completely under control; that whatever arouses the nervous energy of the animal to full activity, causes a corresponding manifestation of luminosity; and, on the contrary, whenever the insect is placed in media which depress its vital powers, and act either directly or indirectly upon its nervous masses, then it ceases, wholly or in part, to give out its light."

The author quotes a letter from Cuba, the concluding portion of which we give:

"I saw a lady at the 'Rotreta' once, with a coronet and stomacher of them; and all the crown jewels of Spain could not have made her so resplendent. The light is not a flash, seen for a moment and then gone, like our fire-fly, but it is emitted in a brilliant, steady ray, at will, and is of extreme beauty of tint, being of a slightly greenish yellow viewed in some positions, and of pale red viewed in others. It is a touching fact, that the poorer classes, when severe sickness visits their dwellings, confine a half-dozen of the Cucuyos in a cage, and are thus furnished with a most beautiful and inexpensive light for night watchings.

THE CONSTITUTION OF THE SUN.—The following is from a paper recently read before the Royal Institute by T. Sterry Hunt. The hypothesis is due, as the author remarks, to Faye, "and seems to accord best with our present knowledge:".

"The sun is to be conceived as an immense mass of intensely heated gaseous and dissociated matter, so condensed, however, that, notwithstanding its excessive temperature, it has a specific gravity not much below that of water; probably offering a condition analogous to that which Cagniard de la Tour observed for volatile bodies when submitted to great pressure at temperatures much above their boiling point. The radiation of heat, going on from the surface of such an intensely heated mass of uncombined gases, will produce a superficial cooling, which will permit the combination of certain elements and the production of solid or liquid particles, which, suspended in the still dissociated vapors, become intensely luminous and form the solar photosphere. The condensed particles, carried down into the intensely heated mass, meet with a heat of dissociation; so that the process of combination at the surface is incessantly renewed, while the heat of the sun may be supposed to be maintained by the slow condensation of its mass; a diminution by 1·1000 of its present diameter being sufficient, according to Helmholtz, to maintain the present supply of heat for 21,000 years."

FREEZING THE BRAIN.—The discovery that the brains of a living animal could be frozen, and afterwards could recover, was made by Dr. James Arnott, who solidified the brain of a pigeon by exposing it to a freezing mixture.

[THE SEA WALL. -Continued from first page.]

On the 29th of September, of the present year, the preliminary advertisement having been made, and proposals received, a contract for the construction of the rock and earth embankmeuts from Washington street to Market street, including the protection and bracing of Clay, Commercial and Market street wharves, and the dredging of a channel twenty-five feet wide, at the depth of twenty feet below mean low tide, with the necessary side slopes, east of the water front, was made at the rate of $219 per lineal foot, or an aggregate amount of $159,745.17, and was awarded to A. H. Houston, the contractor for the preceding work. The embankment bas been completed from Washington street across Clay street, and also the dredging between Clay and Commercial streets. The coutract requires that the work sball he completed within eight months of the date of its execution, or by the 29th of May, 1869. From the progress already made by the contractor, there can be no douht that the work will be finished within the specified time. The mud south of Pacific street extends to a great depth, and considerable time must elapse before the embankment deposited shall be so firmly settled that a wall can be placed upon it without danger of cracking. For this reason, in letting the last contract, no provision was made for the construction of the vertical wall, and the State Harbor Commissioners wisely determined to use their means in preparing the solid foundation for the work.

We are indebted to Mr. Lewis, the Engineer in charge, for the information contained in this article, and to W. B. Treadwell, C. E., for the drawing, reduced from the original in Mr. Lewis' office, after which our illustration was engraved.

Corrected List of State Fair Premiums.

Our agent sends us the following corrected and complete list of gold and silver medals awarded at the late State Fair, at Sacramento; Mr. J. N. Andrews, of Sacramento, being at present engaged iu engraving the names and other lettering upon the medals, which will be done by January 1st, 1869, so that the successful exhibitors may expect to receive them as New Year's presents:

GOLD MEDALS AWARDED.

P. J Devine, for marble bust.

J. D. Patterson, for most meritorious exhibition of stock-sheep.

Pacific Iron Works, for steam engine with patent cut-off.

Mission Woolen Mills, for most meritorious exhibition of manufactured goods.

California Powder Works, for most meritorious exhibition in 4th department—powder.

Isidor Landsberger, for most meritorious exhibition of agricultural products—sparkling wine.

B. N. Bugby, for best exhibition of horticultural products—raisins.

SILVER MEDALS.

Detrick & Eckart, best balance oscillating steam engine.

W. T. Garratt, best display of brass work.

R. Rutter, floating battery.

H. Liebes, display of furs, 1st preminm.

Mrs. M. E. Garrish, best wax-work.

Pacific Saw Manufacturing Company, best circular, mill, hand and other saws.

Carlton Newman, best Califoruia glassware.

Pacifio Plate Werks, best California plated-ware.

Liddle & Keading, best California-made fire-arms.

Elam & Howes, best California wooden ware.

H. T. Graves, California Wire Works, best manufactured wire goods.

Strahlo & Hughes, billiard table and floor.

AN INDUSTRIAL ARMY.—The pay-roll of the Paymaster of the Central Pacific Railroad contains the names of over 1,200 employés in the work-shops of that company, in Sacramento alone. As the proportion of population in any city or towu is about five for each laborer employed in productive industry, it follows that six thousand of the population of that city is sustained by these work-shops.

New Patents Issued to Pacific Coast Inventors.

Especially reported by the U. S. Patent Office, Washington, D. C., to DEWEY & Co., American and Foreign Patent Solicitors, and Publishers of the MINING AND SCIENTIFIC PRESS.

FOR THE WEEK ENDING DECEMBER 1st.

84,470.—IMPROVEMENT IN ANTI-FRICTION BEARINGS FOR VERTICAL SHAFTS.—Rufus P. Barnett, Chas. P. Purinton and Nicholas Seibert, Nevada, Cal.:

1. In combination with the balls H, and their guide I, the universal joint formed hy the convex surface G, and the upper concave surface of D, substantially as described.

2. In combination with the balls H, and the above claimed joiut, the screw E, to adjust the same to the required elevation beneath the shaft.

The object of this invention is to provide a bearing for vertical shafts, such as ordinarily turn in a step, and which from their great weight, and the difficulty in properly luhricating them, are liable to frequent derangements, and it cousists in forming the end of the shaft of sufficient size and allowing it to rest upon three or more hard metallic halls. These balls rest upon a self-adjusting plate or table, which is so constructed as to keep them all in contact with the shaft, even when the shaft gets out of line. The halls are kept in place by a plate formed with openings of sufficient size to allow the balls to turn easily. This plate turns around a central spindle in the adjusting plate, moving with the halls.

84,497.—IMPROVED MODE OF WORKING GOLD AND SILVER ORES.—Guido Kustel, San Francisco, Cal.:

The ingredients or agents above enumerated, added to the ores in the manner and in about the proportions herein specified, for the purpose set forth.

84,516. — IMPROVEMENT IN PUMP-VALVE CHAMBERS. — Michael C. Taylor, Grass Valley, Cal.:

1. The diaphragm B, in a valve-chamber, and the valves C, C', operated by the levers D, D', substantially as and for the purpose described.

2. A double valve-chamber, having one ingress and egress-pipe, constructed substantially as and for the purposes herein described.

This invention consists in providing an improvement in valve-chambers for pumps, so that a continuous stream of water may be thrown from the pumps; and in case one valve should become broken or get out of order, so that its efficiency should be impaired, by simply turniug a lever the stream of water may be shut off, and turned through another valve which answers all the purposes of the first, while the injured valve is being repaired, thus producing a constant stream of water at all times and rendering it particularly valuable in pumping out shafts and other places where it is necessary to avoid stoppages in order that the water may not accumulate, and require much time and labor to reduce it.

84,565.—IMPROVEMENT IN ANCHORS.—Edmond P. McCarthy and James Johnston, San Francisco, Cal.:

The arm G, having the cam I, in combination with the arm D, with its flukes J, J, and the projections *c*, *c*, or an equivalent device, operating the arm G by means of the cam, the whole constructed and arranged, substantially as herein described.

This is one of those inventions in which two well-known devices are combined, for the purpose of providing a better one than either one singly, and it consists in combining with one shank two sets of arms and flukes operating at right angles to each other in such a manner that in whatever position the anchor falls, three of the flukes will be engaged, so that they are always certain to hold.

84,602.—IMPROVEMENT IN PROPULSION OF VESSELS.—Albert F. Yardell, Sau Francisco, Cal.:

1. The bar or truuk C, capable of contaiuiug cargo, arranged and operating substantially as described, for the purpose of communicating motion to the propeller of a vessel.

2. In combination with the tank C, the rod I, segment J, piniou K, gears L, L, L, ratchets P, and pawls P', arraiged and operating substantially as described, to give a rotary motion to the shaft M.

3. Interposing a coiled spring S, between the power-shaft and the propeller-shaft, for the purpose of equalizing or continuing the action of the power upon the propeller, substantially as described.

The nature of this iuvention is to provide an improved means of propelling vessels, without iuterfering with their sailiug capacity, or occupying much space required for freight. The device may he applied to all sea-going vessels, and consists in suspending a box or tank which is loaded or filled with freight or ballast above the kelson, so that the action of the sea, as the ship pitches, will swing this weight or tank to and fro, or forward and hack, and drive a propeller attached to the stern of the ship in the usual way.

84,617.—IMPROVED STEAM, GAS AND WATER STOP-COCK.—W. H. De Valin, of Sacramento, Cal.:

1. In a stop-cock in which the valve or plug is arranged within the case, in the manner described, I claim the combination of the valve with a disconuected flanged valve-stem, having its seat or bearing against the cap by which the valve-chamher is closed, aud held in place by means of a handle, arranged and operating substantially as herein described.

2. The combinatiou and arrangement of the valve-stem and cap for closiug the valve chamher, with the handle for operating the stem, and the cap and spriug for retaiuiug the handles in place, and holdiug said stem upon its seat, substantially as herein specified.

3. A stop-cock, such as described, having the valve-stem formed in two parts, hinged together above the point where the stem bears or fits against the cap, for closing the valve-chamber.

4. The recessed and grooved handle and knob, and the flanged or winged cap, in combination with the valve-operating stem, said parts being constructed and arranged to operate, as herein shown and specified.

84,652.—IMPROVEMENT IN GANG PLOWS.—Andrew Smith, Portland, Oregon, assignor to T. J. Carter and W. P. Watson, of the same place:

1. The combination of the lever O, having the offset *o*, with the ratchet P and R, having the teeth or shoulder *r*, and lever T, the whole operating substantially as and for the purpose described.

2. The arrangement of such frame, when constructed as herein described, in combination with a downward-bent axle D, the hox strap *e*, the braces H, H, the draught pole G, and the wheels F, F.

3. The arrangement of the clevis K, braces H, H, king-bolt C, cross-bar A, and axle D, the axle being behind the king-bolt, and the latter being supported by the braces and the cross-bar, substantially as herein described.

4. The braces *u* and *v*, attached at their lower ends respectively, to the mold-board and standard, and at their upper ends provided with screw-threads upon which are fitted, above and below the plow-beam, through which the braces pass, adjusting screw-nuts, substantially as and for the purpose specified.

SMELTING OF WHITE PINE LEAD AND COPPER SULPHURETS. — Mosheimer and others, constituting the "White Pine Smelting Company," have issued a prospectus to raise $50,000 stock, in shares of $50 each, for the purpose of erecting smelting works at White Pine, to operate on the ores of the "hase metal range." If the project is carried through, cupola smelting will be isattempted by th company, it being thought that the argentiferous contents of the ores will warrant that expense. From recent assays made in this city, it appears that the lead carries from $15 to $90 per ton in silver, with no antimony, and, as that can be readily smelted, it is supposed that it will be worked to good profit. Thousands of tons of this ore can be taken out almost from the snrface.

There are already smelting works at Silver Springs, which will be running by the 1st of February, possibly hy Jannary 1st, and if they work to advantage, additional furnaces will be erected as soon as spring opeus.

ELECTION OF OFFICERS.—BELCHER MINING Co.—Virginia City. Dec. 21st. Trustees: Messrs. Blauvelt, Edgington, Reynolds, D. C. Mackay and P. N. Mackay. It was also determined to remove their office to San Fraecisco, and to issue new stock, of which the par value will be $100 per share.

New Inventions.

A NEW GANG PLOW.—The Portland *Oregonian* has the following: Mr. J. Tustin, of this city, showed us last evening the model of a new gang plow invented by himself, and for which he has applied for a patent. It is as simple in construction as that of Mr. Mason, of Independence, while it has one or two important movements which Mr. Mason's has not. Thus two plows are attached to beams which are connected, one on each side, with the tongue, so that the stiff gear, so much admired in Mason's plow, is secured, either in plowing or traveling. The axle is merely an iron rod, with a crank at one end, and this is turned hy a hand lever oscillating hy the driver's side, to gauge the depth of the furrow. Thus the plows may be changed instantly to cut any depth from two to ten inches while in motion. In most gang plows, the driver has to stop and dismount to gauge his plows. Another hand lever raises the gang out of the ground by a quick, easy movement, the gang being exactly level all the time. A donble foot lever raises the gang at the nose or heel at pleasure, no matter whether iu or out of the ground, and serves to hold the nose down whenever, in passing through hard soil, it may incline to run out.

BREECH-LOADING GUN.—Joseph Gruher, a soldier at Fort Whipple, Prescott, has invented a new breech-loading gun, which is said hy the Arizona *Miner* to he very superior. He has applied for a patent through this office.

IMPROVED CAR FOR INCLINE SHAFTS.—The Nevada *Gazette*, of Dec. 11th, says: We have been shown a model of an improved car for incline shafts, invented by R. R. Craig, of this county. Tho truck is the same as that of an ordinary car, but is supplied with a safety coupling, so that in case of the breaking of the rope, the car would be stopped. The greatest improvement is in the box of the car, wbich is supported by a frame in such a way that it always in asceuding with a load, remains level. The frame revolves in such a way that the car may be dumped with equal facility on either side, or at the end. The model has been examined by a number of miners, who pronounce it a great improvement.

NEW STYLE OF STREET CAR.—The Central City Railroad Company have recently ordered a new style of street car, the peculiarity of which is that it has Stephenson's newly patented truck boxes and springs. The body of the car is hung to the track beneath by eight india rubber spriugs; two to each wheel, and so arranged that the car body can be swung any way from three to six inches, giving the car all the ease of motion of the most luxurious coach. The pole attachment has india rubber springs, which gives ease of motion in starting.

NEW STYLE OF HYDRANT.—Charles B. Ackerson, Second Assistant Engineer of the Fire Department, has invented a new hydrant, which will be more economical than the one at present in use. We shall mentiou this fully on receipt of the letters patent.

THE COUPLING FOR UNITING RAILROAD CARS.—The Sacramento *Record* says that Ogden Squires, of that city, has been engaged for nine months in perfecting a patent coupling for uniting railroad cars, by which they will couple themselves together without the aid of a man, as is now the case. The process appears to work well with the miniature cars whicb we have seen exhibited. If, when applied to the cars, it works as well, it will save many a human limb. The present system employed causes the men engaged in coupling cars, often to be crushed in body or limb.

NEW INCORPORATIONS.—Articles of incorporation have been recently filed in the County Clerk's office iu this city as follows:

POCOTILLA SILVER MINING Co.—White Pine, Nev. Dec. 22d. Capital stock, $800,000; 4,000 shares, $200 each. Trustees: J. M. Taylor, J. S. Josephi and Joseph Woodworth.

JEROME MINING Co.—Grass Valley, Nev. Dec. 19th. Capital stock, $1,000,000; 5,000 shares, $500 each. Trustees: L. W. Jerome, H. King, J. Baudman, J. W. Moyle and J. E. Richards.

CONSOLIDATED CHLORIDE FLAT MINING Co.—White Pine, Nev. Dec. 23d. Capital stock, $5,000,000; 50,000 shares at $100 each. Trustees: A. Hayward, A. E. Head, Thos. Sunderland, Thos. Bell aud W. B. Thomhurgh.

Weekly Stock Circular.

By Associated Brokers of the S. F. Stock and Exchange Board.

San Francisco, December 26, 1868.

City Stocks.

Sales of miscellaneous stocks during the past week have been as follows: California Steam Navigation Co. at 52¼ and 53 (seller 30) per cent.; San Francisco Gas at $77; Spring Valley Water at $65.

The annual meeting of the Savings and Loan Society was held on the evening of the 22d inst., when the following Board of Directors was re-elected for the ensuing year: E. W. Burr, Benjamin D. Dean, Benjamin O. Devoe, Isaac Hyde, William Bosworth, R. J. Tiffany, Annis Merrill, J. W. Cudworth, T. L. Rutherford, H. L. King and J. M. Shotwell. At the meeting of the Board on the evening of the 24th, the following officers were re-elected: E. W. Burr, President; Cyrus W. Carmany, Cashier; and James O. Dean, Auditor.

The open sessions of the Board of Brokers were again suspended on the 19th instant.

The November receipts of the Cal. S. Nav. Co. amounted to $85,080; and the California, Oregon and Mexico Steamship Company, $58,356. Returns are made in currency.

For receipts of Insurance and Railroad Companies see third page of this Circular.

Mining Share Market.

The market for this class of securities has been characterized by a very fair degree of activity, the aggregate sales being quite large; however, stocks generally have declined from prices obtained early in the week, some showing a very material recession. This is due to accounts of less favorable results in the lower workings on the Comstock lode than had been anticipated some weeks past; but, independent of this unpleasant fact, a decline, for the time being, during the holidays is nearly always looked for, or rather always takes place when the attention of the public is diverted from the more legitimate channels of business.

We note the fact that some of the White Pine incorporated companies have already placed their stock in our market, and with the opening of spring we may look for a more general offering of these claims in the stock arena of this city. The following White Pine companies have recently been incorporated in this city: Aurora, Consolidated Chloride Flat, Pocotillo, and White Pine. The Aurora company has already gone to work in earnest. A contract for a thirty-stamp mill has just been closed, which will work from 8,000 to 12,000 tons per year, and at a greatly reduced price. This company will be found in our list on the fourth page. Col. J. D. Fry is President; J. F. Lightner, Secretary, and Capt. Frank Drake, Superintendent. This stock sold in the Board during the week at $25 per share.

Imperial—sold at $123@113 50, and at the close realized $113. By letter of the 22d we learn that clay has again been encountered in the shaft. This shaft will soon be timbered to a depth of 1,106 feet, and, after finishing the sump, will open a station at this point. It is believed that the new drift will strike the east wall of the ledge within about 100 feet of the 1,100 level, provided the pitch is uniform from the old works. The winze on the 900 level is down 12 feet; in hard quartz, with very little water. The receipts of bullion for December account foot up $13,739.

Hale & Norcross — dropped from $83 to $46 50, and closed at $46. It is believed that the lower drift is not far enough west, according to survey, to strike the body of ore which they had on the third station. Some think they have passed through the ledge. A telegram of the 24th says they have gone seven feet further in quartz, and have met another seam of clay, but no body of water has yet been encountered.

Crown Point—improved from $50 to $54, then sold at $52 50, and closed at $52 75. The south drift from the 900 level is in from the Kentuck line, and proves to be barren. The shaft is down 1,075 feet from the surface, continuing in very hard rock, which is supposed to be the "west country." The stopes on the 850 level are said to be looking moderately well, showing an average width of from four to six feet.

Kentuck—advanced from $250 to $272 50, declined to $246, and closed at $245. The receipts of bullion for December account to the 21st inst. foot up $23,825 47.....Gold Hill Quartz was in the market at $75 seller 30. Bullion on December account, $7,060 47.....

Confidence sold at $40@37. Receipts on December account, $6,958 14.....Eureka (Cal.) is quotable at $210. The bullion returns to date for December account aggregate $49,002 62.

Amador (Cal.)—realized $241@250, and closed at $245. The expenses will be greatly reduced for the present month, amounting to only about $17,000, whereas for the past three months they have been from $28,000 to $30,000 per month. This is a favorable showing for increased dividends.

Chollar-Potosi — opened at $168, declined to $148, and closed at $145. For the week ending December 18th 1,264 tons of ore were extracted. The ore shows some improvement. The pumps were started on the 14th to relieve the new works from the accumulated water, which was speedily reduced....Overman—sold to a considerable extent, ranging from $81 to $90, then at $84, and closing at $84 50. On the 21st inst. $22,149 55 in bullion was sent forward to the office in this city.

Belcher—was in the market at $175@173. The annual meeting of the stockholders of the Belcher Company was held in Gold Hill on the 21st inst., and the following gentlemen elected officers for the ensuing year: P. N. McKay, Lewis Reynolds, Duncan C. McKay, William H. Blauvelt and A. M. Edgington. At a subsequent meeting of the Trustees, P. N. McKay was chosen President: H. Bruckmann, Secretary; William Sharon, Treasurer, and P. N. McKay, Superintendent, vice James N. Parks, resigned. We understand that it was resolved to move the office of the company at once to San Francisco.

Lady Bryan — ruled at $20 50@16. In the suit pending between the old and new claimants to the mine, the Supreme Court, on Wednesday last, rendered a decision confirming the title of the latter. The value of the discovery made in the old winze is not yet known, but it is well known that a considerable quantity of very rich ore was taken from the winze some years ago. The old company abandoned the winze (probably for speculative purposes) and concealed the entrance thereto; the new owners discovered it some time since, in the tunnel, but not wishing to prejudice the suit in Court (against them), kept silent. Important developments may be expected in the mine at no distant day.

Savage — sold to a large extent, opening at $82 50@84 50, declining to $74, and closing at $76.....Golden Rule (Cal.) pays its usual bi-monthly dividend.....Mohawk (Cal.) levied an assessment of $3 per share on the 7th inst.

Yellow Jacket—was quite active, advancing from $1,265 to $1,375, declining to $1,310, and closing at $1,320. This company "will declare another $300 dividend about the 1st of January, which will probably be the last previous to the contemplated increase of the capital stock. The north drift, 800-feet level, which is being pushed for the old works, is a sealed book. The 'blower' was turned loose in this drift a few days since, and found to be too strong, in consequence of which the aerial conduit was shortened fifty feet. Developments in the 900-feet level continue most flattering. Since the water was pumped out of that level cross-cuts north and south from the east drift have been commenced some distance shaftward of the end of the drift. The south cut is in ore of the richest character, the face being in the same body which was cut by the east drift some time since, which holds well some distance south of the drift—and in fact shows no signs of exhaustion. The north cross-cut is also in good ore, and the formation of that portion of the mine lying along the entire length of the east drift appears to be a vast mass of quartz."

Almost every day we hear of many persons complaining of headache, loss of appetite, and that they are not fit to do anything, etc. Many is the day that we have felt so ourselves, and in fact have gone to bed and imagined ourselves sick, but for the life of us could not tell what was the matter. One day, while thus complaining, a friend said to us, "why don't you try Plantation Bitters? They are really a good thing, and will make you feel like a new man." Upon his recommendation we purchased a bottle, and took them according to the directions. They seemed to go right to the spot, and gave us immediate relief. Ever since we have taken every opportunity to recommend them.

Opera Glasses, Telescopes, Magic Lanterns, Drawing Instruments, Microscopes, etc., at $5 each. C. Muller, 205 Montgomery street, Russ Block.

Advance Terms.—The terms of subscription of the Mining and Scientific Press are in advance—the same as most first-class journals in the country strictly adhere to. No subscriber should consider the stopping of a paper at any time, when it is not paid for, as a personal slight.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT.	DAY DELINQUENT.	DAY OF SALE.
Amador Co., dividend, $6 per share	Payable Dec. 19, 1868	
Adriatic, Storey co	Annual Meeting, Jan. 4	
Alpha, Storey co., Nev., Dec. 3, $10	Jan. 5—Jan. 25	
Alamo, Lyon co., Nev., Nov. 25, 35c	Dec. 31—Jan. 30*	
Bacon, Storey co., Nev., div	Payable June 19, 1868	
Cherokee Flat, Butte co., Dec. 9, $5	Jan. 11—Jan. 26	
Chalk Mt. R. & Nevada co	Special Meeting, Jan. 7	
Chipiloncna, Mexico, Nov. 6, $2.50	Dec. 11—Dec. 28*	
Adriatic-Potosi, div., $75	Payable Oct. 16, 1867	
Crown Point, dividend, $7.50	Payable Feb. 12 1868	
Colorado, Arizona	Annual Meetin · Dec. 28*	
Cosala, Sinaloa, Dec. 12, $1	Jan 15—Feb. 4	
Diamond cop., Del Norte co., Oct. 28, $2	Nov. 10—Dec 28*	
Folsom St & Ft. R. R., Nov. 13, $5	Dec. 15—Dec 26	
Eureka, div. $5	Payable Nov. 20, 1868	
Empire M. & M., Nev., dividend $6	Payable May 15, 1867	
Gould & Curry, Storey co., Nev	Annual Meeting Dec 28	
Gould & Curry, Storey co., Nev., Dec. 5, $15	Jan. 9—Jan. 29	
Gould & Curry, div., $7.50	Payable May 15, 1867	
Gold Hill Q M & M—dividend, $7 50	Payable July 13, 1868	
Golden Rule, Tuolumne co, div. 50c ₱ sh	Payable Dec. 26*	
Great Central, Arizona, Oct. 9, $2.50	Nov. 11—Dec. 30*	
Gale & Noreross, Storey co., Dec. 12, $5	Jan. 15—Feb. 6	
Hale & Norcross, div. $125	Sept. 16, 1867	
Hope Gravel, Nevada co., Nov 18, $1	Dec. 22—Jan. 11*	
Imperial, Storey co., Dec. 15, $25	Jan. 18—Feb. 4	
Imperial, Storey co., Nev., div	Payable June 25, 1868	
Jefferson, Yuba co	Adjourned Meeting Jan. 2	
Kentuck, div., $30 per share	Payable Dec. 19, 1868	
Mt. Tenabo, Lander co., Nev	Special Meeting Dec. 23	
Mohawk & Montreal, Nevada co., Dec. 7, $3	Jan. 11—Feb. 4	
Morning Star, Alpine co., Dec. 9, $2 50	Jan. 11—Feb. 1	
Maxwell, Amador co., Nov. 13, $2.50	Dec. 14—Jan. 5	
North Star, dividend, $5	Payable Aug. 15, 1868	
Oriental, Sierra co., Nov. 9, $2	Dec. 14—Jan. 2	
Overman Storey co., Nov. 13, $20	Dec. 16—Jan 4	
Ophir, Storey co., Nev., Nov 9, $3	Dec. 12—Jan. 2	
Pacific Unassessable, div	Payable June 18, 1868	
Rattlesnake, Yuba co., Dec. 19, $7.50	Jan 21—Feb. 8*	
Rippon, Alpine co., Oct. 15, $1	Sale Jan. 23*	
Rising Star, Idaho, Nov. 16, $10	January 4—Jan 16	
Santiago, Silver City, dividend, $2 50	Payable Dec 19, 1868	
S. F. & Castle Dome, Arizona, Nov. 25, 3c	Dec. 28—Jan. 12*	
Savage, Virginia, Nev. dividend, $4	Payable Nov. 12, 1868	
Sand Spring Salt, dividend $1	Payable June 5, 1868	
Sierra Nevada, Nev., Nov. 16, $12.5½	Dec. 29—Jan. 5	
Talluiah, Humboldt co., Dec. 14, $17.50	Jan. 29—Feb. 27	
U. S. Grant, Nevada co., Nov. 9, 50c	Dec. 15—Jan. 2*	
Virginia & G. H Water Co	Dividend, payable Nov. 20, 1868	
Yellow Jacket, div., $300	Payable Nov. 10, 1868	

Those marked with an asterisk (*) are advertised in this journal.

Latest Stock Prices Bid and Asked,

S. F. STOCK AND EXCHANGE BOARD.

Friday Evening, Dec. 25, 1868.

	Bid.	Asked.
MISCELLANEOUS STOCKS.		
United States Bonds, 5 20s, 1865, '67, '68	$ 81	82
United States Bonds, 5 20s, 1864	80	81
United States Bonds, 5-20s, 1862	81	82
Legal Tender Notes	74	74
California State Bonds, 7s, 1870	95	96
San Francisco Bonds, 10s, 1851	par & int.	
San Francisco City Bonds, 6s, 1855	—	—
San Francisco City and County Bonds, 6s, 1858	85	87½
San Francisco School Bonds, 10s, 1860	100	—
San Francisco School Bonds, 10s, 1863	par & int.	
San Francisco City and Co. Sch'l Bds, 7s, 1866	90	—
San Francisco City and Co. Bonds, 7s, 1862	87½	89
San Francisco City and Co. Bonds, 7s, 1864	87½	89
San Francisco City and Co. Bonds, 7s, 1865	87½	89
San Francisco City and Co. Judg. Bds. 7s, 1863	87½	89
San Francisco City and Co. Judg. Bds, 7s, 1864	87½	89
Sacramento City Bonds	24	25
Sacramento County Bonds, 6s	70	73
Marysville Bonds, 10s	75	80
Stockton City Bonds	60	70
Yuba County Bonds, 8s	77	79
Santa Clara County Bonds, 7s	75	77
Butte County Bonds, 10s, 1871	70	75
San Mateo County Bonds, 7s	75	80
California Steam Navigation Co	52¼	—
Spring Valley Water Co	55¼	65½
State Telegraph Co	25	27½
GAS COMPANIES.		
San Francisco Gas Co	78	—
Sacramento Gas Co	—	7½¼
RAILROADS.		
Sacramento Valley Railroad	—	—
San Francisco and San Jose Railroad	40	45
Omnibus Railroad	70	—
Central Railroad	49	52
North Beach and Mission Railroad	67	70
Front Street, Mission and Ocean Railroad	11	12
BANKING INSTITUTIONS.		
Pacific Bank	97½	100
The Bank of California	157	158
California, Loan and Savings Society	—	—
INSURANCE COMPANIES.		
Firemans' Fund Insurance Co	92½	94
Pacific Insurance Co	124	125
San Francisco Insurance Co	—	105
Merchants' Mutual Marine Insurance Co	500	525
California Insurance Co	1300	1400
Union Insurance Co	92	93
Home Mutual Insurance Co	19½	20
Occidental Insurance Co	72	—
National Insurance Co	72	—
Builders' Insurance Co	—	—
MINING STOCKS—WASHOE DISTRICT.		
Alpha	42	43
Baltimore American	—	—
Belcher	173	175
Bullion, G. H	—	20
Crown Point	52½	53
Cole (Va.)	11	13
Confidence	39	40
Consolidated Virginia	8	11
Chollar-Potosi	145	147
Dancy	3¼	3½
Exchequer	22	25
Empire Mill and Mining Co	115	120½
Gould & Curry	101	102
Gold Hill Quartz	75	78
Hale & Norcross	46	47
Imperial	113	114
Kentuck	245	249
Julia	3	8
Justice and Independent	9	10
Lady Bryan	16	17
North American	2	5
Ophir	38	39
Overman	84	85½
Segregated Belcher	8	8¾
Savage	75	76
Sierra Nevada	19	—
Yellow Jacket	1310	1320
Union	—	—
United States	—	—
MISCELLANEOUS MINING STOCKS.		
Amador (California)	245	255
North Star (California)	—	—
Eureka (California)	210	—
De Soto (Humboldt)	—	2
Golden Rule, California	5	—

San Francisco Market Rates.

Wholesale Prices.

Friday, Dec. 25, 1868.

Flour, Extra, ₱ bbl	$5 25	@$5 75
Do. Superfine	4 25	@ 4 75
Corn Meal, ₱ 100 lbs	3 25	@ 3 50
Wheat, ₱ 100 lbs	1 50	@ 1 85
Oats, ₱ 100 lbs	2 00	@ 2 25
Barley, ₱ 100 lbs	2 05	@ 2 50
Beans, ₱ 100 lbs	3 00	@ 3 50
Potatoes, ₱ 100 lbs	75	@ 1 10
Hay, ₱ ton	14 00	@22 50
Live Oak Wood, ₱ cord	9 00	@10 00
Beef, extra, dressed, ₱ lb	8	@ 10
Sheep, on foot	3 00	@ 3 25
Hogs, on foot, ₱ lb	4½	@ 5
Hogs, dressed, ₱ lb	7	@ 8
GROCERIES, ETC.		
Sugar, crushed, ₱ lb	17	@ 17¾
Do. China	16	@ 17½
Coffee, Costa Rica, ₱ lb	17	@ 17¾
Do. Rio	—	@ 17
Tea, Japan, ₱ lb	75	@ 90
Do. Green	60	@ 1 25
Hawaiian Rice, ₱ lb	9	@ 10
China Rice, ₱ lb	6	@ 7
Coal Oil, ₱ gallon	45	@ 50
Candles, ₱ lb	15	@ 18
Ranch Butter, ₱ lb	60	@ 75
Isthmus Butter, ₱ lb	40	@ 45
Cheese, California, ₱ lb	15	@ 21
Eggs, ₱ dozen	50	@ 55
Lard, ₱ lb	13	@ 14
Ham and Bacon, ₱ lb	14	@ 18
Shoulders, ₱ lb	6	@ 8
Retail Prices.		
Sutter, California, fresh, ₱ lb	80	@ 85
do. pickled, ₱ lb	30	@ 40
do. Oregon, ₱ lb	20	@ 25
do. New York, ₱ lb	40	@ 45
Cheese, ₱ lb	20	@ 25
Honey, ₱ lb	25	@ 30
Eggs, ₱ dozen	65	@ 75
Lard, ₱ lb	15	@ 17
Hams and Bacon, ₱ lb	20	@ 25
Cranberries, ₱ gallon	1 25	@ 1 50
Potatoes, ₱ lb	1½	@ 2
Potatoes, Sweet, ₱ lb	3	@ —
Tomatoes, ₱ lb	3	@ —
Onions, ₱ lb	3	@ —
Apples, No. 1, ₱ lb	4	@ 5
Pears, Table, ₱ lb	5	@ 7
Plums, dried, ₱ lb	11	@ 13
Peaches, dried, ₱ lb	—	@ —
Oranges, ₱ dozen	75	@ 1 00
Lemons, ₱ dozen	1 00	@ —
Chickens, antece	50	@ 75
Turkeys, ₱ lb	25	@ 28
Soap, Pale and C. O	7	@ 12
Soap, Castile, ₱ lb	—	@ 20

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

Friday Dec. 25, 1868.

Iaos.—Duty: Pig, $9 per ton; Railroad, 60c ₱ 100 lbs; Bar 1@1¼c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1¼c ₱ lb; Pipe, 1¾c ₱ lb; Galvanized, 2¼c ₱ lb.

Scotch and English Pig Iron ₱ ton	$35 00	@$36 00
White Pig ₱ ton	— —	@ 36 00
Refined Bar, bad assortment ₱ lb	03	@ — —
Refined Bar, good assortment, ₱ lb	04	@ — —
Boiler, No. 1 to 4	04½	@ — —
Plate, No. 6 to 9	— —	@ 04¼
Sheet, No. 10 to 13	04¼	@ — 5
Sheet, No. 14 to 20	05	@ — 5¼
Sheet, No. 24 to 27	05	@ — 5½
Copper.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb		
Sheathing, ₱ lb	— —	@ — 26
Sheathing, Yellow	20	@ — 21
Sheathing, Old Yellow	10	@ — 11
Bolts	21	@ — 22
Composition Nails	21	@ — 22
Tin Plates.—Duty: 25 ₱ cent. ad valorem.		
Plates, Charcoal, IX, ₱ box	12 00	@ — —
Plates, I C Charcoal	— —	@ 11 00
Roofing Plates	10 00	@ 10 50
Banca Tin, Slabs, ₱ lb	— —	@ — 30
Steel.—English Cast Steel, ₱ lb	— —	@ — —
Quicksilver, ₱ lb	55	@ — 60
Lead.—Pig, ₱ lb	7½	@ — 8
Sheet	10	@ — —
Pipe	11	@ — —
Bar	9	@ — 9½
Zinc—Sheets, ₱ lb	— —	@ — 9½
Soaax.—California, ₱ lb	— 20	@ — 23

New York Metal Market.

[CORRECTED WEEKLY FROM THE AMERICAN ARTISAN.]

New York City, Dec. 28, 1868.

IRON.		
Pig, Scotch, No. 1 (cash) ₱ ton	$42 50	@$45 00
do. American, No. 1 (cash)	41 00	@ 43 00
do. do. No 2	37 50	@ 38 50
Swedish, ordinary sizes	155 00	@165 00
Common	90 00	@ 95 00
Refined	100 00	@120 00
Rods	105 00	@165 00
Horse-shoe	125 00	@ — —
Hoop	135 00	@193 00
Scroll	135 00	@175 00
Nail-rods, ₱ lb	— 9½	@ — 10
Spring	— 10	@ — —
Tire	— 10¾	@ — —
STEEL.		
Bars, best cast, warranted, ₱ lb	— 25	@ — —
Sheet, do	— 23	@ — —
do. second quality	— 20	@ — —
do third quality	— 17	@ — —
Saw-plates, circular	— 30	@ — —
Double-shear, warranted	— 23	@ — —
Single do	— 20	@ — —
Mouche & Co. (cast bars)	— 19	@ — —
Machinery, round	— 16	@ — —
German, best	— 16	@ — —
do. goat	— 11¾	@ — —
do. 13	— 13	@ — —
Slister, warranted	— 17	@ — —
do. common	— 19	@ — —
Jessop & Sons', common	— 17	@ — —
Double refined	— 26½	@ — —
Stone-axe shapes	— 25½	@ — —
TIN.		
Tin-plate, prime charcoal, per box	9 00	@ 15 75
Banca, ₱ lb	— 40	@ — 41
Straits	— 37	@ — 38
English	— 37	@ — 38
COPPER.		
Sheathing, ₱ lb	— 31	@ — 32
Sheet	— 35	@ — —
Bottoms	— 33	@ — 40
LEAD.		
American, ₱ 100 lbs	9 60	@ 9 75
German	10 00	@ — —
Bar	10 00	@ 10 25
Pipe and Sheet	10 50	@ 11 00
ZINC.		
Musselman and American, ₱ lb	13 00	@ 13 50
BRASS.		
High, various widths, ₱ lb	— 46	@ — 52
Platers'	— 51	@ — 59
Sheet	— 48	@ — 55
do. circular	— 47	@ — 53
Low	— 50	@ — 56
Wire	— 47	@ 1 15
SUNDRIES.		
Solder, ₱ lb	— 20	@ — 22
Antimony	— 17	@ — 18
Spelter	— 9	@ — 10
Copper, old	— 17	@ — 19
Brass, old	— 13	@ — 14
Nails, roofing, ₱ keg	9 50	@ — —
do. do. tined	16 00	@ — —

We Consider the Mining and Scientific Press the most valuable mining and mechanical newspaper issued in the United States. Dewey & Co., publishers, are also solicitors of foreign and American patents and conduct patent cases of every kind. We guarantee that all business confided to them will be carefully attended to, and we further believe that every miner, mechanic, and scientific man should have their valuable paper.—*Auburn Stars and Stripes.*

Mining Summary.

THE following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

CALIFORNIA.

Alpine County.

Markleeville *Miner*, Dec. 12th: Owing to the incapacity of the roasting facilities at the Pioneer mill, the Star Co. are making slow progress in working their ores; about a ton a day being the extent of present capacity. What they do run through, both of first and second class ores, proves each day more conclusively, that chlornation is the best system of reduction that could be adopted for them. Judge Culver has gone below to procure the necessary materials for a winter's run.

Amador County.

Jackson *Ledger*, Dec. 19th: Hall McAllister, owner of the Summit mine at Sutter Creek, has bought the two claims south of him, and consolidated them with the Summit, thus giving him 1,800 ft. of as rich quartz ground as can be found in Amador County.

The new hoisting works erected at the Auaconda mine will be put in operation this week.

Mr. Walther showed us on Wednesday last, some very handsome rock taken from the Trowbridge mine. It was completely studded with glittering sulphuret, and had every appearance of the rich quartz taken from the Coney & Bigelow mine. The company are now down 100 ft., and will, in a few days, commence sinking again.

The owners of the Coney & Bigelow mine have decided to sink a new shaft on their ledge. It is to be located 200 ft. south of the present one, and will be 10 ft. square in the clear. Work on it will be commenced the 1st of January.

Calaveras County.

Mokelumne Hill *Chronicle*, Dec. 19th: We are informed that a couple of ladies, residents at Railroad Flat, while out walking one day last week, picked up some pieces of rock which were extremely rich—sparkling with gold. Subsequent research has developed an extensive lead of quartz which eclipses everything yet discovered in that vicinity. Railroad Flat is one of the most promising mining camps in the county and constantly improving.

It has rained sufficiently to set every miner capable of "slinging" a pick at work.

The Whisky Slide correspondent writes: There is considerable work being done along Chili Gulch; the first place I stopped at was the Quaker City mill, situated on Hog's Eye Gulch. Things look rather "slummy" around here at present, for which they are indebted to the knowing one who had charge of the shaft, and allowed the water to rise some 80 ft., causing a large cave. The last rock taken from the shaft looks well, and I have no doubt but that perseverance and a deeper shaft will develop a good mine. The next claim I visited was the Coffee mill. This is a gravel claim, situated at the head of Skunk Gulch; this is said to be one of the best paying mines in the locality; the dirt is taken from the mine through an incline tunnel, in cars, to a dump, where it is crushed by six stamps, propelled by means of steam power. Farther down the gulch several new companies are opening mines, but the work upon them is not sufficiently advanced to determine their value. On my way home I visited Jesus Maria. Mining is dull here at present, on account of the scarcity of water. At Whisky Slide the miners are all waiting for water. They have their flumes set and their picks sharpened, ready to take advantage of the first shower.

Markleeville *Miner*; Dec. 12th: At a mine near Angels, in Calaveras County, the Hagan Water-burning Co. is now putting up a kiln, to expel the sulphur and other impurities from the ore, so that all the gold will be got out afterwards by ordinary milling, and there will be no sulphurets to save and work over by the usual expensive process. It is claimed to be the only kiln in which heat can penetrate the ore (of battery size) so as to reach the inmost sulphur and draw it out. It is also claimed that steam injected into a kiln heated at first by a small amount of wood is decomposed, and its hydrogen is separated and made available for fuel instead of wood, to a great extent.

Los Angeles County.

Los Angeles *Republican*, Dec. 12th: The prospects of the Soledad mining district brighten from day to day, and in no instance has a ledge failed to improve as depth was gained. All parties interested are sanguine of success, and every day the number of prospectors increases, as, different from the northern mines, the winter is here the best time to prospect, there being no snow or severe weather. There are about an equal number of natives and Americans prospecting, the Americans principally from Santa Barbara and San Buenaventura, where these mines are causing a little excitement. Dr. Colombo, a noted prospector, has lately arrived in the district and feels sanguine that he has found here something worthy of attention. Searles & Yates expect their 5-stamp mill down on the next steamer. They have sold a one-sixth interest to advantage.

Polk & Kabler are working their 5-stamp on ore from the Saratoga lode, and expect to have five more stamps working within 30 days. Clark & Gleason have started a large working shaft eight by four in the clear, and intend erecting a 10-stamp mill if the lead looks favorable at 100 ft. deep. A number of new ledges located, though not prospecting rich, yet warrant work, and parties prospecting them find the quality of ore improving. Some Mexicans have found a fine lead of galena of liberal dimensions, about 20 miles from the gold mine. It has a large percentage of silver, and is attracting the attention of men posted in silver mines.

Mariposa County.

Mail, Dec. 18th: The Mariposa Co. have purchased one of the Thunderbolt crushers and pulverizers, which is now upon the ground at the Benton mills, soon to be erected and attached to one of the mills, and will, no doubt, be of great importance to those interested in quartz mining in this State. It is a late improvement. It is said that it will crush, pulverize, and reduce to an impalpable powder, from 30 to 50 tons of ore per day, and is of very durable constitution—every part being made adequate to the strain brought to bear upon it. The jaw-plates will admit boulders of over 50 lbs., and can be graduated as occasion may require.

Nevada County.

Transcript, Dec. 17th: The Little York Water and Mining Co., after purchasing the Garduer property, consisting of mining claims, water ditches, etc., bought out Findley & Co., thus consolidating under one company nearly all the mining property on the ridge. Since the 1st of July they have been busily engaged in getting the claims in order for extensive work, and are now running three pipes with 300 ft. pressure. Since they purchased, they have taken out in the neighborhood of $14,000, and when water comes, they expect to have ten pipes at work on their banks. For the past five months they have employed from 30 to 50 men, constantly, and expended about $1,000 per week cleaning out and fitting up ditches, building dams, flumes, etc., and they have now ready, ditches that will carry 3,000 inches of water. The three pipes pay $200 per day, and they have ground enough to last twenty years. Little York Ridge, with a favorable season, will yield an immense amount of gold.

Gazette, Dec. 16th: Last Saturday morning, Hans Robert picked up a lump of gold in his diggings, near Rough and Ready, weighing eight ounces.

Dahle & Co., of Rough and Ready, are erecting a quartz mill on the Bunker Hill ledge, at that place.

Dec. 18th: The following items are from Boston Ravine: Ben. McCauley cleaned up on Wednesday a crushing of 100 loads of rock from the Rocky Bar mine, on the Chevan ground, which yielded nearly $25 per ton. Frank Morse, who has a lease of the Larrimer and Higgins ledge and mill, is prosecuting work with energy, putting the mill in perfect repair and taking out some of the finest average rock in that vicinity, yielding about $50 per ton.

Dec. 19th: This paper gives us a long account of a region of country laying between the camp of Eureka, on the Henness Pass road, and the mouth of Cañon Creek, called "God's Country," a very expressive name for so wild a country. It says: In places where the cañon is the narrowest, a man standing on the ridge above could easily throw a stone to the bottom, a distance of 1,500 or 2,000 feet. Numerous large gold-bearing quartz ledges have been found in the wildest part of this region, but the difficulty of access to them with machinery has thus far been a serious obstacle to their development. The Star mill and mines are located on the steep sides of the mountain or cliff, about 1,500 ft. above Cañon Creek. All access to these mines by teams is by the way of Eureka and the Henness Pass road. A road has been projected and surveyed from Washington, up the Yuba and Cañon Creek, by the way of the Star mill to connect with the Henness Pass road, but the rocky nature of the best route that could be found, has thus far prevented its construction. At the head waters of Little Cañon Creek, and the North and South Forks of Poorman's Creek, the country is a sort of table land, and easy of access. It is in this vicinity that some of the best quartz mines in Eureka township have been opened. This region can be reached with so little difficulty that it is not included in what is termed "God's Country." This latter is confined to the slope drained by the lower portion of Cañon Creek, and covers a district of four or five miles square. From personal observations, and the testimony of a number of miners who have prospected in this isolated wilderness of rocks and deep sunken gorges, we believe for mineral deposits it is not surpassed by any other part of Nevada County. Its ledges of quartz, cropping out boldly from the steep sides of the cliffs and ridges, nearly all bear traces of gold, and some of them pay well from prospecting in a hand mortar.

The Eureka mine is now being worked in levels Nos. 2, 4 and 5, the 5th having just been opened, and the ledge at this point will average about 3½ feet in width, and in depth is 563 feet perpendicular from the surface. The amount of rock taken from the mine during the present year is 18,000 tons. Rock now on surface is 1,000 tons; below, mined out and ready for hoisting, 2,000 tons. The average monthly expenses of the mine is $18,000. One per cent. of all the rock crushed is saved in sulphurets, and the latter worked by the chlorine process in the company's works at the mine. The sulphurets for the past year have yielded on an average $200 per ton. They are saved in the Paine & Steven's buddle. The last 12 days' run have yielded $25,200 outside of the battery and sulphurets.

The new 15-stamp mill at the Idaho mine is constantly employed on rock taken from the mine, and is crushing on an average 150 tons per week. They have a surplus of 700 tons of rock on the surface. The Idaho is now being worked at a perpendicular depth of 420 feet. The ledge at this point is from 4 to 4½ feet wide. Gold is saved from the blankets, the pulp ground in the amalgamating pans, and the sulphurets saved by the Paine & Steven's buddle.

Grass Valley *Union*, Dec. 15th: Hank Roberts and Jas. McCauley, in working some new ground on Bunker Hill, near Rough and Ready, on Friday last, took out a nugget weighing eight eight ounces and a half, and worth $153.

Plumas County.

Quincy *National*, Dec. 12th: Thompson & Percival have sold their interests in the Barker claims, on Mill Creek, to some parties from Poorman's Creek.

A correspondent gives the following items from Greenville and vicinity: Blood & Co., of the Indian Valley mine, contemplate starting up the Pennsylvania mill in a short time. They have struck some excellent rock in the last extension of the lower tunnel. They are crushing rock taken from that point this week, and the plates make a splendid showing....Cherokee looks quite lively now. Judkins & Kellogg are putting up hoisting machinery on their mine. They have erected a large building, sufficient to cover their hoisting works, as well as to afford room for all the timbers and shop necessary to carry on their mine. The Caledonia mill is also in operation, though I do not think it is paying as well as its owners would like to have it....I paid a visit to the north arm of the valley a few days ago. The Enterprise mill in Light's Cañon, will commence operations in a short time. It is said their rock will assay $120 per ton.

The Butte *Record* says: A lump of gold weighing $999, was recently brought into the banking-house of Rideout, Smith & Co., of this place. It was about the size and shape of a griddle cake, with two or three small pieces of quartz attached to one side. It was found at the mouth of French Creek, at or near Rich Bar, Plumas County.

Trinity County.

Weaverville *Journal*, Dec. 19th: The late storm has raised Cañon Creek sufficiently to fill all the ditches taking water from it. The miners along the line of McGillivray's new ditch can resume labor next week, and we look for some rich returns from that section next season. The ditch will be finished to the terminal point before long, where new, and it is believed rich diggings will be opened.

Tuolumne County.

Sonora *Democrat*, Dec. 19th: The Tuolumne Water Co. have shut off the water from their ditches. The supply in the reservoirs is almost exhausted and, besides, some repairs have to be made on ditches and flumes. This will throw the miners of Columbia, Saw Mill Flat, Shaw's Flat, out of work for a few weeks.

The Phœnix Water Co. has a good supply yet; and in the diggings covered by their ditches the miners will be able to work on without interruption.

Yuba County.

Marysville *Appeal*, Dec. 18th: We understand that the Pennsylvania Co. is taking up from the plates about 40 ozs. of amalgam for every 24 hours crushing.

COLORADO.

Georgetown *Miner*, Nov. 26th: The work of setting up the new roasting cylinder at the works of Hunepedeu, Wolters & Co., is progressing rapidly, and in a short time will be ready for use....Hunepeden, Wolters & Co. have taken out and shipped since our last report, 2,106.95 ozs. of silver bullion, coin value, $2,265.68....At the Terrible shaft-house, the other day, we saw a beautiful piece of ore, weighing 268 pounds, taken from the east stope. It measures 11½ in. in width, and is solid mineral....Mr. Carpenter, of Mill City, has found a fine silver lode in Montana district, near Silver Creek, which carries from $200 to $700 in silver to the ton of ore.....The Supt. of the Brown Co. shipped to his company East, on Friday last, 206 pounds troy of silver bullion, coin value, $3,336.20.

Mr. Teats, of the California Reduction Works, informs us that he is now working the richest ore he has ever seen in Colorado. One of Dr. Blatchley's pans is in constant and successful operation, working mostly on surface ores, from which he gets an average of 80 per cent. of the assay value. On some lots he has done much better than that. We are told that one lot from the Mahaska lode, which assayed $50 per ton, yielded in the pan a little over 45, or more than 90 per cent. of the assay value.

Central City *Register*, Nov. 26th: Geo. E. Randolph is reconstructing the Ophir mill, with a view to improving its beauty, and arranging for greater convenience.

Mr. Burlingame, Territorial Assayer, has shown us two beautiful specimens of silver ore, one face of which was thickly dotted over with "snarls" of native silver in fine wires. The same specimen also contained a considerable quantity of what appears to be chloride of silver. The other was a large and beautiful specimen, of a different character, containing galena, zinc-blende, iron pyrites, etc., and the whole dotted over with spots of green and blue carbonate of copper, and is apparently quite rich. A large amount of very rich ore is now being taken from the mines in this locality.

A lot of 2,100 pounds of ore from the Pittsburg and Boston lode, Dailey district, was recently run by Mr. Stewart, at Georgetown, which yielded 125 ozs. of silver, .955 fine. Light & Co. are still at work in the district, developing the Mountain Ram lode. Considerable activity is anticipated in that locality for next season.

Last evening we saw at the Territorial Assay office, a beautiful button of silver, 1 oz. 6 pwts., taken from 1 oz. 17 pwts. 13 grs. of ore from the Conley lode, situated in Silver Gulch. This indicated a yield of $26,127.40 per ton of 2,000 pounds.

Charles Hill, recently from Granite district, reports mining affairs there as hearing quite a favorable aspect. The veins, which were almost universally very narrow and rich at the surface, have very generally grown wider as sinking progressed on them, without any diminution in their richness. Several stamp mills are in operation in the district, and are generally obtaining very encouraging results. He predicts quite lively times in that section for next season.

DACOTAH.

Sweetwater *Mines*, Dec. 5th: Anthony & Coufroth have purchased the remaining 600 feet of the Miner's Delight ledge, owned by Gallagher, Pugh & Chase, for $18,000, and Mr. Anthony intends to put a 10-stamp mill upon it as soon as possible. Mr. Anthony will ship his mills from Benton, soon.

Messrs. Smith & Dalton, who recently sold 800 feet in the Austin City ledge for $40,000, left yesterday for Chicago, taking with them a large quantity of quartz specimens, which would do credit to any country in the world.

IDAHO.

Owyhee *Avalanche*, Dec. 12th: Wessels & Co. located two lodes in South Mountain district, one called the Original, and the other the Galena; the former averages from 20 to 30 feet in width, and contains silver, gold and lead—silver predominating. There is a shaft sunk on the lode a depth of six feet. The surface rock, or croppings, assayed 21.98 per ton; at the bottom of the shaft the ore assays $105.55 per ton. The Galena is a smaller lode than the Original, but according to the assay returns, far richer. This lode, at a depth of two feet from the surface, is four feet in width, and the ore assays $248.15 per ton. Like that of the Original, it contains silver, gold and lead—silver predominating. Work will be steadily prosecuted thereon until they are fully developed.

The quality of ore coming out of the Ida Elmore mine, is as rich as ever, and is be-

ing taken out fast enough to keep the mill pounding day and night.

The Flint correspondent writes: The Rising Star mine is being worked extensively; the shaft is down a considerable depth, and the lower level exhibits a lode from six to ten feet in width, extremely rich. The company's 40-stamp mill will be in operation by the 20th inst.

Work on the Forrest ledge is being pushed rapidly; the shaft has been sunk 150 feet, and a tunnel is being run to tap it; the ledge is well defined, and rich ore is being taken out at the bottom of the shaft. Black's mill has been leased by this company, and will commence crushing in a few days.

Considerable work is being done on the U. S. Grant and Twilight, both show good mineral.

A correspondent at Warren's, writing to the Walla Walla *Statesman*, under date of Nov. 16th, reports the product of eight tons of the Scott ledge ore, crushed at Williams & Maxwell's Pioneer mill, to be $1,206.87, or over $150 per ton.

MONTANA.

Helena *Post*, Dec. 14th: Sterling is improving wonderfully in prospects. Capt. Maltby is running the quartz mill belonging to the N. Y. & M. M. D. Co. mill steady, with very satisfactory results. Other mining operations are in contemplation and are being undertaken, which will materially add to the prosperity of this district.

In the upper part of Dry Gulch Col. Nelson upon sinking a shaft 75 ft. struck a shelly bedrock upon which was found coarse gold and good pay. Some distance below, where the gulch is wider, all attempts to find gold have proved unavailing, from the fact that a secondary bedrock was struck, some 25 ft. below the surface. It is supposed that this bedrock is a slide, and acting upon this suggestion, Col. Nelson proposes to sink a shaft till he strikes the same character of bedrock.

Cayuse Gulch, one of the tributaries of Ophir Gulch is situated four miles above Blackfoot. The discovery of gold was made in it last summer, but the ground was not fairly opened until October last when David Johns and party obtained $1,000 from a space 15 by 20 ft. in area. The gold found was very coarse and heavy, one nugget weighing $81 and three or four others weighing from $35 to $40 being secured. This gulch is supposed to be the main source of gold, supplied to Ophir Gulch, and those interested in it are sanguine of rich results next season. Twenty-one claims have been staked, but not over a third of them have yet been worked, the supply of water being scarce. It is thought that these mines will supply about 40 men next summer, as it is proposed to flume the ground. The pay streak is about 30 ft. wide and 12 ft. deep.

NEVADA.

Humboldt.

Unionville *Register*, Dec. 12th: H. H. McColly gives the following information concerning the placer mines on Willow Creek:

Gold is found for a distance of about 14 miles along the banks of Willow Creek, which in many places are wide, affording large deposits of auriferous gravel and earthy deposits. The creek is quite a large mountain stream which will afford an abundance of water for sluicing the banks and gravel deposits adjacent thereto. Mr. McColly says, from the tests which he has made, he is satisfied he can make at least $10 to the hand in sluicing his claims, but it is almost impossible to get lumber at this time for sluice boxes and other purposes. Pieces of gold have been taken out weighing as high as 75 cents. The number of miners at the new camp is now about 20, but quite a lively mining camp is expected to grow up in the spring.

We were shown some very rich samples of ore this week from the Alpha mine, in Panther Cañon. From Mr. Stuart, who brought the ore, we learn that there is a large quantity of the same quality in sight, and that the lode is at least 12 ft. in thickness at the point where they are now at work upon it.

Work is to be resumed on the Auld Lang Syne mine in Dun Glen Cañon. It is the intention of the owners to take out and have worked at the Empire mill a considerable quantity of the ore, in order to test its quality.

All three mills in Buena Vista Cañon are now running up to their full capacity day and night, on ore from the Manitowoc and Arizona ledges, which promise to yield an abundant supply for an indefinite period.

Arrangements are being made to have a quantity of ore from the Bullion mine in Sacramento district taken out and worked at the Unionville mills. It is contemplated by this company to resume work on their mine at an early day.....S. D. R.

Stewart, Supt. of the Silver Mining Co., made his first shipment of silver bullion on last Wednesday, 678 ozs., valued at $960. This was from his run on the first 20 tons of ore ...The Pacific Union Express Co. shipped from its office in Winnemucca, on Tuesday last, 1,754½ ozs. of silver bullion, received from Golconda ...Fall & Co. shipped this week, per Wells, Fargo & Co's Express, 3,000 ozs. of fine bullion.

The Little Giant Co. forwarded to San Francisco this week, by the Pacific Union Express Co., 610 lbs. of bullion, worth about $11,000, which is the product of 40 tons of ore. The total shipment of bullion from this mine for the month ending Dec. 10th, is $18,600. It is the intention of the company to close down for awhile, as they cannot work to advantage during the cold season without shelter, which they cannot procure this fall. The company will, however, continue to draw ore to the mill, and be prepared to do extensive work as soon as the mill is covered in. The mine is looking as well, if not better than ever.

Dunn & Higgins are taking ore out of the St. Helena and Talisman, in hopes that they will be able to get it worked when the mill starts again.

Reese River.

Virginia *Enterprise*, Dec. 17th: The rush to White Pine from this city and vicinity still continues. Wells, Fargo & Co. are now sending out from their office in this city eight passengers every other day, this being the greatest number they can venture to forward from here, on account of the many White Pine and overland travelers passing east from California. Few passengers are now being booked, as the number booked ahead is already quite large. Besides those going by stage a great many are daily leaving this part of the State for the new mines, on horseback and in vehicles of all kinds. As long as the present fair and mild weather continues the rush to the new mines will last.

Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Virginia *Enterprise*, Dec. 17th: The return of bullion from ore worked in Birdsall & Co's mill, for the past 12 days of the present month, was 450 lbs., of the assayed value of $12,241, the mill being run only to three-fourths of its capacity (90 tons per day.) The ore is of very uniform quality, and is now being extracted from the upper level. The new tunnel, which will probably be completed by April, taps the ledge 400 ft. lower than the present level. Over 100 ft. of the ledge has been prospected by means of an incline and found to improve, with a thickness of 10 ft. of good pay ore.

Dec. 19th: The Imperial-Empire shaft has cut into the clay of the east wall of the Comstock. They did not expect so soon to strike the wall, but it seems that the dip is less than was estimated.

There was shipped from this city by express during the past week 5,533 lbs. of assayed bullion, valued at $202,127.52.

OREGON.

Portland *Oregonian*, Dec. 12th: We learn that rock containing—as is supposed—silver, has been recently discovered on the Colima, six miles above Monticello. When tested in a forge, the rock furnished a substance which galvanized iron, as is usual with silver-bearing rock. Some of the rock has been left with Lloyd Brooke, of this city.

Walla Walla *Statesman*, Nov. 14th: The new mines discovered on Perry Creek late in the fall, so far as prospected and worked, prove to be very rich and extensive. Mr. Bartlett, who returned from the new camp on Thursday last, reports eight claims opened, two of which pay over $100 per day to the hand. Mr. McCauley, an old Carrihoo miner, is working with sluices and employing some five or six men, averaging, so far, $90 to the hand; he is also running a shaft into the hill opposite his claims, and on the day that Bartlett left, had struck paying dirt, with very handsome coarse gold. Provisions are not over plenty in the camp; what there is is selling at very high rates. About 75 men will winter in the camp. A large number of miners from Montana have secured claims; they will return in the spring to work them. Mr. B. says that a regular stampede is expected from Montana early in the spring. The Hudson Bay Co. have a store already in the camp, and until the trains from Walla Walla arrived, did a good business, and sold goods at enormous prices. Flour was sold as high as 50 cents per pound, and other goods in proportion. They received over $1,200 from the sale of five kegs of liquor.

Jacksonville *Sentinel*, Dec. 12th: The Enterprise quartz mill in Josephine County, lately sold by the sheriff, has been purchased by G. Karusky for the sum of $876.

Nitrates in Nevada.

The commercial value of mineral nitrates being duly appreciated by both shipping and manufacturing interests, since Chilian nitrate of soda has been brought to use in supplying the world with nitric acid and gunpowder, more or less notice has been taken also of the occurrence of nitrates in the interior of Nevada. Regarding a locality on the road to Belmont, Nevada, (12 miles south of Austin,) a racy correspondent from "a cool cave" in that vicinity, noted for its nitrogeneous contents, furnishes the following acceptable information:

The Toyabe Range is here composed entirely of metamorphic rock, with which several basalt and porphyry eruptions have played particular ——. Now and then only, traces of some kind of coral are found in the dolomite or limestone, as it is here called. The mountain is cut almost to its base by fearful precipitous cañons, and wherever the rock is limestone, caves and caverns of all possible shapes and sizes are found. Some are quite large, and extend for several hundred feet into mountains. The limestone is crossed by innumerable seams and cracks in every direction, and myriads of mice, gophers, etc., live in these, and their excrement, vulgo dung, fills every crevice and cave. Now, mark you, I "guess" there is where the nitric acid comes from.

The limestone, wherever caves occur, is massive crystalline, and shows no sign of regular "slating;" but besides these fissures, noticed as sylphine retreats of rats and mice with deposits of dung, the limestone is crossed by numerous fissures and cracks that are filled with a fine white crystalline mass, sometimes tinged slightly yellow; and also fissures filled with calcspar, as is usual in limestone of this description. The general color of the limestone, so-called, (better dolomite,) is blue.

Take the above mentioned fine white crystalline filling of a certain kind of cracks, and put it into water, and it will dissolve easily. From it you can crystallize the following minerals, or products:

$CaONO^5$	(chiefly) say	70 per cent.
$NaONO^5$	"	20 per cent.
$CaNO^5$	"	5 per cent.

NaCl and other substances 5 per cent.

Other specimens have contained as high as 50 per cent. of water, but the proportion of solid matter remained about as above. For description of taste, etc., see some good mineralogy.

Two "flourishing" towns have been laid out, and are supposed to live upon the above valuable mineral deposits; but I have my doubts. There certainly are some magnificent domicils, (log huts) and I also noticed some copper-colored specimens of the genus homo. My friend persisted in attributing the copper color to the influence of the nitrates. However this may be, I think the inhabitants depend for their subsistence more upon lizards, rats and mice, than upon the commercial "leach products" of the excrement of said fauna. The adjective "flourishing," above given to the town, relates properly to the luxurious serenity and aboriginality within the town limits, of that glorious species of artemesia, known as "sage-brush."

Still, these mines may become valuable in some future emergency; for instance, in case of a war with England, (vide *Herald*, etc.) for there certainly is more than a bushel of this valuable product of our glorious country, in this district alone!

The renowned croppings, or as they have it here, "indications of croppings" of petroleum, also occur in this district far-famed and valuable. In my opinion, they are merely weak decoctions of rats——the watery portions having evaporated, leaving a bitter, pitchy mass, which burns and stinks like all possessed.

Resinous deposits of similar origin are found in a cave at Lake Tahoe, and doubtless at many other localities, where a natural process of manufacturing nitrates may result, even to a considerable extent.

Nitrate of potash ($NaONO^5$) or saltpetre, tastes saline and cooling, being soluble in water; is a degree softer than limestone, colorless, and is found generally in minute needle-form crystals, and crusts on the surface of the earth, on walls, rocks, etc. It forms abundantly in certain soils in Spain, Egypt and Persia, especially during hot weather succeeding rains. It is also manufactured from soils where other nitrates (nitrate of lime or soda) form in a similar manner, and beds called *nitriaries* are arranged for this purpose in France, Germany, Sweden, Hungary, and other countries. Refuse animal matter, putrified in calcareous soils, gives rise to the nitrate of lime. Old plaster, lixiviated, affords about 5 per cent of nitre. In India it is obtained in large quantities for the arts. In Madison County, Kentucky, it is found scattered through the loose earth, covering the bottom of a large cave.

Nitrate of soda ($NaONO^5$) or nitratine, occurs in efflorescences, also massive, and granular; on soda plains. In the district of Tarapaca, northern Chili, where the dry pampa for 40 leagues, at a hight of 3,300 feet above the sea, is covered with beds of this salt several feet in thickness, along with gypsum, common salt, glauber salt, and remains of recent shells, the last indicating the former presence of the sea.

It has likewise a cooling taste, and is sometimes of a reddish brown, gray, and lemonade yellow, is softer than sulphate, transparent, and the crystals are double refracting, like Iceland spar. Saltpetre and nitratine both deflagrate, or puff up, like weak powder when thrown on burning charcoal, which is the easiest and surest method of distinguishing nitrates.

Animal substances of all kinds contain much nitrogen. Volcanic gases have been found charged with it; they were probably the source of the Chilian deposits.

Projects to Open up Southern Nevada. The interior railroad scheme in which Austin and the Idaho people are specially interested, brings Southeastern Nevada prominently into notice; a country which is represented on Colton's map of 1865 by a topographical blank, and described by a note, in large italics, to the effect that "This vast unexplored region of country, is supposed to be inhabited by tribes of Indians; altitude nearly 5,000 feet." The railroad in question will connect the Central and Southern Pacific Railroads, and bring Eastern Nevada into close connection with some good agricultural country where flowers seldom droop from the touch of frost. Starting from the Colorado and following up the Rio Virgen river from Callville to the mouth of Beaverdam Creek, a distance of eighty miles, is a valley from three to nine miles in width, of as productive land as that of San Bernardino valley, with the high dividing ridge between the Virgen and Colorado on the east covered with the finest timber, while to the west table land rises with a gentle ascent back to the Wasatch Mountains, a distance, in some places, of thirty miles. This bench has numerous streams crossing it from the mountain cañons, and is covered with the richest grass, but no timber. The Muddy, a stream which rises from hot springs in the mountains about twenty-five miles west of the point where the Beaverdam joins the Rio Virgen, also flows through a broad and beautiful valley. The Pinte Indians, under the guidance of Mormon missionaries, have been farming in this valley for years, and the yield of wheat, corn, potatoes, etc., is astonishingly large. The water of this stream remains warm until it pours into the Rio Virgen.

Forty miles to the southwest along this table land, brings one to Las Vegas, the trellised conduit of myriad cool springs and a few warm ones. Here, mesquit and wild grape vines cover the valley proper, while the table land is dotted with clumps of cottonwood, willows and wild flowers—indicating the points where water bubbles up. The vines in the valley bear grapes of the largest and most luscious kind, and have the appearance of having descended from the Spanish or English grape. The head of this valley is about forty miles from Callville, and at the summit of the low range of hills which separates it from a sagebrush desert to the west, is an extensive deposit of lead, which is perhaps nearer pure than has ever been found elsewhere. The mountains in this region are of granite formation, with here and there ledges of yellow marble, similar to that found near Cedar City, in Utah.

MINING AND SCIENTIFIC PRESS.

W. B. EWER.....SENIOR EDITOR.

W. B. EWER. A. T. DEWEY.

DEWEY & CO., Publishers.

OFFICE—No. 414 Clay street, between Sansome and Battery.

WRITERS should be cautious about addressing correspondence relating to the business or interests of a firm to an individual member thereof, whose absence at the time might cause delay.

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HELENA, Montana.—R. F. May.
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CENTRAL CITY, C. T.—Messrs. Richards & Crane, of the City Book Store, Main street, will act as our agents.
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A. S. Hopkins, No. 70 J street, Sacramento.
MR. A. C. KNOX, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1868

San Francisco:
Saturday Morning, Dec. 26, 1868.

Notices to Correspondents.

CRUCIS.—VACCINATION was first practiced in England by Dr. Jenner, who, for its introduction, received a grant from the British Parliament of $50,000. Prior to that period (1796), innoculation was employed as a preventive of the small pox. Jenner's improved mode consisted in employing the lymph obtained from a cow that had been attacked by the small pox; hence the word vaccination. Dr. Jenner was first induced to pay attention to the subject now termed vaccination from observing the fact that the Gloncestershire milkmaids, after undergoing a mild form of the disease, contracted by milking cows attacked with variola, were never found to be attacked afterwards by small pox. On this fact he conceived the idea of artificially inducing the disease in the milder form, by what is now known as vaccination, and had sufficient influence with his Gloucestershire friends to have the operation performed in cases sufficiently numerous to incontrovertibly establish the principle. In a few years afterwards, innoculation, or the impregnation of human beings with virus from persons suffering from small pox, was prohibited in England, as it was found that innoculation was not a sure preventive from future attacks, and was sometimes—and that not nnfrequently—followed by death. If once properly performed with good vaccine lymph, vaccination is esteemed by all eminent French and English physicians as a certain preventive from attack at any future period of life. The seven years' lease from impunity from future attack set up by some of onr medical men in San Francisco would be laughed at by their brethren in France and England. Such a theory, however, comes appropriately from a medical meeting that could tamely listen to a long disputation about the employment of syringes and other complex instruments as being the mode best adapted to introduce the vaccine matter into the human system. From the fact just stated, it may be accepted that the major part of the medical men, at the meeting named, were thoroughly unacquainted with, and must have never practiced, vaccination, or ever seen it properly performed. Every medical man's case of instrnments in England is furnished with a fine-pointed, needle-shaped piece of steel, but in its absence the punctures and the insertion of the lymph may be equally well performed by a slender stocking darning-needle. If good lymph is employed, one puncture generally suffices, and three are rarely or never found to fail.

OBSERVANT.—One of the oldest and simplest modes of detecting one of the phenomena connected with earthquakes, is to have a common earthen basin partially filled with some viscid fluid, such as molasses, which, on being thrown by oscillation up the side of the bowl, shall leave a trace of the outline of its surface. This mode, however, can only afford a rude approximation to the direction of the horizontal movement.

Standard Works on Metallurgy.

The best book on metallurgy to be had at present is undoubtedly the German work of Professor Bruno Kerl, late of the Hanoverian Mining Academy, in the cheerful little ancient mining town of Clausthal, in the Harz. Kerl is not uninformed regarding American mining developments, having had many American students, who have uniformly become much attached to him; so that when the Clausthal Academy partially broke up, about a year ago, those that there were there at the time followed him bodily to Berlin. The German edition is in five volumes, and is very complete, especially on the metals mined and "milled" in this country. Our miners and metallurgists will be interested to learn that a translation of Kerl's Metallurgy has already partially appeared in English, by William Crooks, F.R.S., and Ernest Rohrig; published by Longman, Green & Co. London, 1868. Part I is out, treating of lead, silver, zinc, cadmium, tin, mercury, antimony, bismith, nickel, gold, platinum and sulphur, being illustrated with 207 wood engravings; and Part II, completing the work, is promised speedily.

The admirably clear and concise style of Rivot's work on metallurgy—a single large volume, in French—makes it a favorite with many. Details of treatment are not so fully given as in Kerl, but Rivot has a happy faculty for presenting a picture of the actual operations to the mind of the reader.

Percy's work is the fullest and best on the subjects treated of by him—on fuel, fire-clays, copper, zinc and brass. It is doubtful whether Percy's proposed second volume, on lead, silver, gold, etc., will ever appear.

On amalgamatiou and California additions to the science and art of separating the precious metals from their ores, Kustel's work is the best and the only available publication. A very valuable old work is *Winkler's Amalgamations Processe*, describing very ably the amalgamatiou processes, both theoretically and practically, as they existed twenty-five years ago.

EARTHQUAKE SENSATIONS UNDERGROUND. The extraordinary fact discovered by the electric philosophers, that earthquakes are not felt at a little distance underground, or in the mines, proves to be not a fact, after all; unless the miners at the bottom of the Bullion shaft, 1,200 feet below the surface,—the deepest in the country,—were strangely misled by their perceptions on an occasion referred to by the Nevada papers. The men felt very much like coming up, and the foreman had to go down to reassure them. While he was in the drift at the bottom the second shock took place. He says it sounded as though everything in the mine was being pushed violently from the east to the west.

THE RETURNING U. S. SURVEYOR GENERAL of California, Lauren Upson, has not only added largely to his numerous list of friends on the coast, by an administration distinguished for its ability and integrity, no less than by the urbanity which has characterized the entire office nnder his charge, but he has received letters, we are pleased to notice, of special acknowledgement and appreciation from managers of the Land Office at Washington.

PACIFIC DEPARTMENT OF THE COAST SURVEY.—Prof. Geo. Davidson has assumed the superintendence of work belonging to this department. He has been in the serfor twenty-four years.

WE are indebted to V. S. Anderson, of the Idaho Council, for a copy of Gov. D. W. Ballard's Message to the Legislature of that Territory.

OUR traveling agent reports that the Union Express Co. is popular and doing a good business throughout the interior.

Educational Institutions of the Pacific Coast.

[Continued from page 388.]

Under this heading we noticed last week the Schools of Califoruia. We uow continue the following:

IN OREGON.

Willamette University, (Methodist) at Salem. Rev. Dr. Wythe, late President.

College at Portland, under the patronage of the Episcopal Church. (Started by Bishop Scott).

La Creole Academy, at Monmouth, Polk County.

Forest Grove University, at Forest Grove, Yamhill County.

Portland College, at Portland, (Methodist). Rev. T. M. Gatch, Principal.

Oregon Medical College, at Salem, Oregon. Horace Carpenter, Deau.

Corvalis College, at Corvalis. Rev. A. Finley, A. M., President; Joseph Emory, Professor of Mathematics, etc.

Catholic Institution, at Jacksouville, for females. There are several other educacational institutions, sustained by that church in Oregon.

IN MEXICO.

There is a first class University, inclnding a Mining Academy, in the city of Mexico. It was fully described in *Brownson's Review*, about twelve years ago, from which it appeared that the Mexican University stood on a levcl with the best institutions of the kind in the United States. Further and fresher data are given in *Baldwin's Gazetteer*. Recent political disturbances have almost or quite ruined many of the previously flourishiug educational institutions of Mexico; so that numbers of youug men are now being sent to this couutry to he educated. St. Ignatius College, of this city, and Oakland and Santa Clara colleges, are chiefly favored.

The educational institutions in the City of Mexico, are: 1. The *Universidad*, 2. The *Colegio de Mineria*, where mining and the natural sciences hearing thereon, are taught. This is a very respectable institution, having on its staff of professors, some able men. Castello, is the Professor of Miuing Geology. 3. The *Escuela de Medicina*. 4. The Colegio de Militar. 5. The Colegio de San Ildefonso, where languages, philosophy, law, civil and commercial, are taught. 6. The Colegio de San Juan de Letran. 7. The Colegio de San Gregorio. 8. The Seminarium. 9. The Colegio des Abogados, (legal). 10. The Colegio des Viscainas, (girls). 11. The Colegio des Escribanos, (notaries). 12. The Colegio de Belen, (girls). 13. The Colegio des Niños.

Local institutious are: iu GUADALAJARA, the *University*, where Letters, Philosophy, Law and Medicine are taught, and degrees conferred; the *Seminarium*, where Letters, Philosophy, and Law are taught; and the Institute of Law and Medicine, at San Juan. In MICHOACAN, the legal and clerical *Seminarium*, and the *Colegio de San Nicholas de Hidalgo*, located at the capital, Morelia; and several "colegios clerical," at Samora, etc. In Guanajnalo, the *Colegio de la Purissima*. In Leon, the *Colegio Seminario*, and the Colegio de San Felipe Neri. In San Miguel Allendi, the Colegio San Felipe Neri. At Acamharo (towu) a colegio cierical, auxiliary to the Morelia Seminarium. At Celaya (city) a Franciscan College. At Salamanca, an Augustine College. Besides which, there are "Colegios del Gobierño" in the States of Zacatecas, Agua Calientes, Durango, Oaxaca, and Yucatan, Queretaro.

Famous amongst the Mexican educationalists, were the former rector of the Morelia Seminary, Clement de Jesus Munguia, and also Pelagio A. Lavastida.

Señor Marcelino Martlnez, of Francisco street, in this city, filled, prior to the French intervention, the professorships of Logic and Metaphysics, iu the Colegio de San Nicholas de Hidalgo, at Morelia.

IN SOUTH AMERICA

There is a University at Lima, Peru, of which the Peruvians are very proud. An excellent Mining Academy also exists at Lima, in which the goverumeut specially interests itself, having recently deputized its ministers abroad to procure additional competent instructors.

In the other South American Pacific States, educational institutions do not appear to be in a flourishing condition. Many colleges formerly sustained by the Jesuits, were suppressed about 100 years ago, and frequent revolutions since then have operated disastrously upon them, so that the wealthier citizens have to send their sons abroad to be edncated,

CONTINENTAL Life Insurance Company, 302 Montgomery street, corner of Pine.

Contributions for our Cabinet.

Under this heading we shall continue to mention and describe, according to merit, such specimens of ores, minerals, fossils, curiosities, etc., as may be presented, or forwarded to us by mail or express, prepaid. Each article will be numbered and placed in our cabinet, and recorded with the name of the donor, and the claim or location from whence it came.

No. 310.—Galena, gold and copper, and iron pyrites, in quartz matrix, from the "Independent," a parallel vein, 300 feet east of the Sonlsby mine, Tuolumne Co., owned by Davidson, Bawden, Floyd and others.

No. 311.—Opals, with magnesian incrnstations, from Mokelumne Hill, Calaveras County.

No. 312.—Gold and crystallized iron pyrites, in coarse granular qnartz, from the Alexander mine, adjoiuing the Gwin, or Polomo, at Lower Rich Gulch, five miles below Mokelumne Hill; taken 135 feet from surface in a 7-foot vein. The same character of sulphurets are found in the Polomo, immediately adjoining.

No. 313.—Gold, with copper pyrites, spots of erebuseite, and galena, from Confidence, Sugar Pine District, Tuolumne County, S. Gilsou, Superintendent. Selected from a large vein of good-looking low-grade ore.

No. 314.—Auriferous iron pyrites, in large square crystalline masses, with parallellism of arrangement, iu quartz, from the Washington mine, owned by Woods & Bacon, five miles northeast from Mnrphy's.

No. 315.—Beautiful specimen, showing gold in quartz, and pyrites in chloritic slate, from Heslip's mine, Quartz Mountain, Tuolumne County; a peculiarity taken from the lower level.

No. 316.—Pyrites, variegated—a beautiful oddity, from Sonlsby mine, Tuolumne County,

No. 317.—Variety of Silver Fahlerz, or polytellite, from the Rawhide mine, Tuolumne County. This sample is a piece from which three ounces (avoirdupois) were assayed hy Dr. Snell, of Sonora, producing two pennyweights of silver, one and one-fourth grains of gold, one grain of tellurium, and one-half grain of copper.

No. 318.—Quartz vein, showing parallelism of formation, and containing free gold, from the Casco mine, owned by J. J. Haley, of San Francisco, and J. R. Hardingburgh, at the mine, Amador County.

No. 319.—Gold, pyrites and galena, in qnartz, from Washington District, five miles northeast from Mnrphy's, Calaveras Connty. These samples are not selected, hut really are average rock from an undeveloped thirty-inch vein. Rich in gold.

A NEW WATER WHEEL FOR GRAVEL MINING.—We take the liberty of copying the following remarks from a business letter from Edwin Adams, of Clipper Mills, Butte County, patentee of a new water wheel which we may illustrate in some future number of the PRESS:

"PORT WINE, Sierra County, Dec. 14th, 1868.—I have had a wheel built at Locher's fonudry at Oroville, for the purpose of hoisting the water and gravel out of a deep placer mine at this place.

I have 'set it up' and am now running it. It does its work easily and entirely satisfactorily.

The wheel is only twenty-two inches in diameter. The buckets or floats when out at their full lengths present a surface of two inches square; perpendicular hight of water 100 feet. The gearing is arranged or constructed as ten is to one, that is to say, the water in passing through the trough or concave of the wheel, run ten times as fast as the perimeter of the hoisting drum. It has to hoist a car and contents weighiug about 3,000 pounds each up an incline 116 feet long, and having a perpendicular rise of thirty-five feet.

HARNESS.—Oil your harness *first—then* wash it. Don't reverse the order of the two operations, as is generally done. So says, at some length, a correspondent of the *Scientific American*.

A MERRY CHRISTMAS AND HAPPY NEW YEAR to all subscribers, inveutors and readers of the PRESS—aud the rest of mankind.

If You Please!

We would remind those of our subscribers whose subscriptions have already expired, (or will expire on the 1st of January,) that we shall be happy to have them forward the amount of their annual subscription before our next issue. It will save us much time and expense to have patrons send in their subscriptions just before, or promptly at, the time of expiration. We have been unremitting in our efforts during the past volume, to render our paper valuable and acceptable to our readers, and we are sufficiently encouraged with the result to anticipate still greater enthusiasm in the future, in extending the value and usefulness of the PRESS. We hope to receive the subscriptions of many old and new patrons for 1869.

Dec. 24, 1868.

Three Calendars in One.

We have just issued an annual circular, of convenient size for the office and counting house use, containing large calendar for 1869 and small calendars for 1868 and 1870; also alphabetical table of distances from San Francisco, U. S. Revenue Stamp Tax, U. S. rates of postage, rates of foreign postage, relative value of currency, information about patents, etc. It is for general circulation, and free for all who may send for it.

We enclose copies in our local edition today, and would request such readers as do not care to preserve their copies, to give them to persons who will post them in prominent places, and thus oblige.

Our Office.

The office of the MINING AND SCIENTIFIC PRESS is located in the second story at No. 414 *Clay* street, north side, just below Sansome. Here we have spacious accommodations, with our patent rooms, editorial room, counting room, newspaper and job printing offices,—all conveniently arranged and connected, and our facilities for dispatching business correctly and economically, better than ever before. Don't forget the number —414 Clay street, below Sansome.

DEWEY & CO.

No Branch Office.

Our friends and patrons will bear in mind that we have no branch office in San Francisco, our U. S. and Foreign Patent Agency rooms being suitably arranged with our MINING AND SCIENTIFIC PRESS printing office, at No. 414 Clay street. We have no partners in business except the undersigned. DEWEY & CO.

A. T. DEWEY. W. B. EWER.

A CONTRAST.—During one of the rainy days of the past week, we took a Market street car for Woodward's Gardens. We found the walks around the grounds perfectly dry, contrasting very favorably with the muddy streets and pavements of the city. We found both amusement and instruction in the Library and Gallery and in the finely selected Cabinet of Natural Curiosities.

SULPHURETS and rich Rebellious Ores are wanted in this city, by ROBT. TAYLOR & CO. See advertisement in another column. 17v17tf

RETURNED.—Dr J. H. Paine, Dentist, Wadsworth House, No. 225 Bush street, between the Occidental and Cosmopolitan Hotels, San Francisco. 21v17-4m

Mr. Mowry, lately a clerk in a hotel at Colfax, is requested to call at the office of the MINING AND SCIENTIFIC PRESS, No. 414 Clay street, below Sansome, San Francisco.

CO-OPERATIVE UNION STORE.—This is becoming one of the most useful Institutions in the city, and the Mechanic and Laboring Man fully appreciate it. They are now enabled to buy their Groceries and Provisions 20 per cent. cheaper than ever before, and the very best articles in the market. The store is located at 115 Sutter street, Lick House Block, San Francisco. 23v17-am

SAVE YOUR TEETH.—Drs. Jessup & Beers, over Tucker's Jewelry store, are now making a specialty of filling the fangs of dead Teeth, and building up broken crowns with *pure gold*—thus restoring them to their original usefulness and beauty. They are also using Nitrous Oxide for the painless extraction of Teeth, when so desired—the only absolutely safe anæsthetic ever discovered In breathing it, it acts as a gentle stimulant, without undue excitement,—the sensation produced being truly delightful, the effect upon the lungs healthful, and in its results positively free from all danger. Prepared and administered daily at the Dental Rooms of Messrs. JESSUP & BEERS, corner Montgomery and Sutter streets, San Francisco. 16v16tf

PAIN KILLER.

No article ever attained to such unbounded popularity.—*Salem Observer.*

An article of great merit and virtue.—*Cinn. Nonpareil.*

We can bear testimony to the efficacy of the Pain Killer. We have seen its magic effects in soothing the severest pain, and know it to be a good article.—*Cincinnati Dispatch.*

A speedy cure for pain—no family should be without it.—*Montreal Transcript.*

Nothing has yet surpassed the Pain Killer, which is the most valuable family medicine now in use.—*Tenn. Organ.*

It has real merit; as a means of removing pain, no medicine has acquired a reputation equal to Perry Davis' Pain Killer.—*Newport (Ky.) Daily News.*

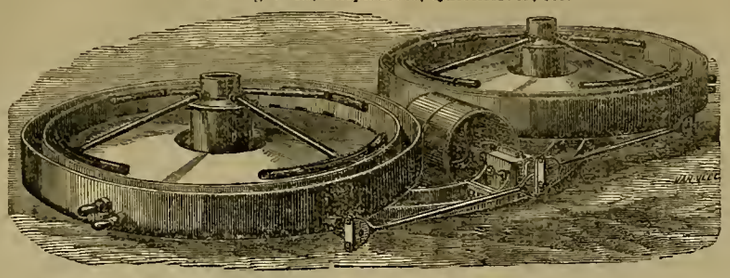
It is really a valuable medicine—it is used by many physicians.—*Boston Traveller.* 26v17-1m

Portable Engines.

The Swamscot Co's (warranted equal to any manufactured, may be seen in use in this city), PORTABLE and STATIONARY STEAM FIRE ENGINES, STEAM PUMPS and ROTARY PUMPS, and WOOD-WORKING MACHINERY of every description, at Eastern prices. Address W. O. M. BERRY & CO., 511 California street, San Francisco. 25v17-3m

HUNGERFORD'S IMPROVED CONCENTRATOR,

For Saving Gold, Sulphurets, Quicksilver, etc.



There is no description of machinery of so much importance to the mining interests of California, at the present time, as that for the separation of sulphurets. Many machines have been tried, and abandoned; and none seems to meet the requirement of the mining interest so well as that now patented by Mr. Hungerford, which is an improvement on the well known Hungerford & Prator Concentrator, with which his name is already so familiar.

RECOMMENDATIONS:

SAN FRANCISCO, October 19th, 1868.

MR. M. HUNGERFORD—*Dear Sir:*—We have had twelve of your Concentrators at work at the Oneida Mine, Amador County, for about six months. They give entire satisfaction. They are strong and substantial, requiring, thus far, no repairs, and do their work thoroughly and effectively. At a recent clean-up of four of them, I found that in four weeks' time we saved about $500 in free gold, besides the sulphurets, or not far from one dollar per ton on the entire crushing of the ten stamps connected with them. In my opinion, it is for the interest of every quartz mill to have your machines. Yours, respectfully, GEORGE PRINGLE, Supt. Oneida Mine.

OFFICE OF THE ONEIDA MINING COMPANY, Jackson, May 13th 1868.

MR. MORGAN HUNGERFORD—*Dear Sir:*—In regard to the four Hungerford Concentrators that I bought of Messrs. Goss & Lambard last month, I will say that I put them up in the Oneida Mill soon after I arrived here, and find that they save sulphurets well and clean, and work to my entire satisfaction. I have tried many other concentrators, but these stand up and work better than any others I have used. I have ordered Messrs. Goss & Lambard to make eight more for me as soon as possible. Very truly yours, JAMES MORGAN.

BIG OAK FLAT, May 25th, 1868.—*Mr. T. W. Mulford*—DearSir:—I have used two of M. Hungerford's Concentrators in the Rattlesnake Quartz Mill, at this place, and find that they work full as well as they are represented to do. E. M. SMITH, Supt.

A full description of the principle and mode of action of this pan, is described in circulars, which will be forwarded to any party who may desire them.

The Hungerford Concentrator has only to be seen to be appreciated. No millman will use any other kind after he has tried that. They are in active operation in mills throughout the State, and give perfect satisfaction.

It should be borne in mind that Mr. Hungerford is the original builder and maker of the celebrated Prater Concentrator, and his name should be sufficient guarantee to warrant the public in examining his new machine before purchasing elsewhere.

In future these Pans will be manufactured by GODDARD & Co., at the Pacific Iron Works, San Francisco, which is a guarantee that they will be built in the most substantial manner.

These Pans may be seen at the Pacific Iron Works, First street, near Howard, San Francisco.

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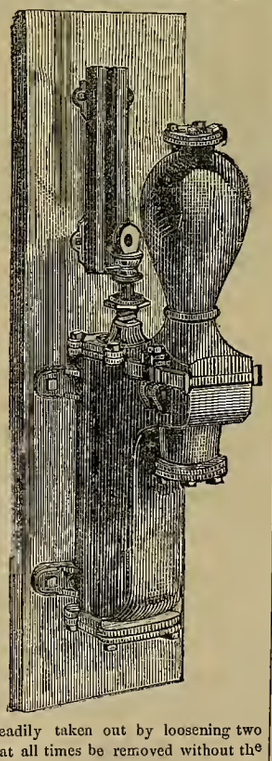
Or M. HUNGERFORD, at the Pacific Iron Works.

18v17oow

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Deep-Well, Mining and Double-Cylinder Patent Pumps.

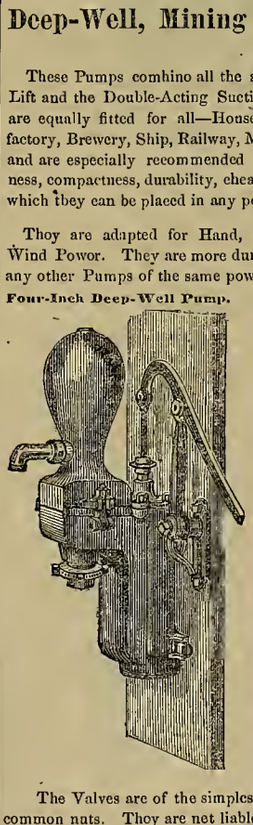
Six-Inch Mining Pump.



These Pumps combine all the advantages of the common Lift and the Double-Acting Suction and Force Pumps, and are equally fitted for all—Household, Farm, Mill, Manufactory, Brewery, Ship, Railway, Mining, and other purposes, and are especially recommended on account of their lightness, compactness, durability, cheapness, and the facility with which they can be placed in any position.

They are adapted for Hand, Steam, Horse, Water, or Wind Power. They are more durable in all their parts than any other Pumps of the same power.

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The Valves are of the simplest construction, and can be readily taken out by loosening two common nuts. They are not liable to get out of order, and can at all times be removed without the aid of a skillful mechanic.

The lower valves of these Pumps work upon inclined seats, which prevents sand or other matter that the Pumps may take up, from remaining under the valves, or stopping the flow of water.

These Pumps are worked with less friction, and consequently require less power than any other Double-Acting Pumps of equal capacity.

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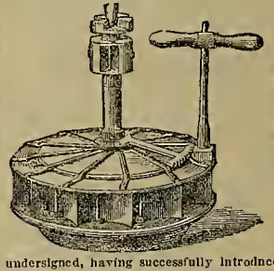
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The most noted of theso oeherous deposits was discovered in 1860, near the towe of Martinez, Contra Costa Couuty. Six well-defined heds of ochre have been found in this locality, whieh range from 10 to 20 feet thick, aed extend from El Humbre Creek to San Pablo Bay, a distance of six miles. In 1862 a 20-horse power steam eegine, for grinding the eolors, was erected, aud ahout 100 tons, of as many as 84 tints, from white to hlack, embraeieg a pale huff and bright vermillion, were prepared. But the causes ahove mentioned rendered the enterprise unprofitahlc, and it was ahandoned within a year of its commeneemeet. Some of the colors made are as bright to-day as when first prepared.

In 1866 a deposit of terra de sienna was found on Gold Gulch, ahout six miles from San Lorenzo, Santa Clara County. Yellow oehre is fouud in the same locality.

There are bodies of eoloring earth, red, purple and white, about five miles west of Ione City, Amador County, which form a portion of what is kuown as Pratt's Hill, a promontory extending some distanee into the Sacramento Valley from the foot-hills.

Beds of sienna aud umber exist in the mountains in the vicinity of San José, Santa Clara County. Fuller's earth is found in the same locality.

Red ochre is found on Red Rock, in the harbor of San Francisco, and at other places along the coast.

The above localities are named because the materials found in them have been used and aro known to be valuable. But there are many localities where eoloring earths, elays, etc., are known to exist, which are omitted hecauso they have not heen developed.—*Mineral Resources.*

HOW INDIVIDUALS ARE ENRICHED BY MINING.—The first effect of the production of the preeious metals in rich mines is that it enriches the individual engaged in mining, or at least gives him an opportunity to enrieh himself. A large proportion of mankind are so stupid, so imprudent, so wasteful, or so iedifferent to the valuo of money, that they eannot mako money whon they have the best of ehances, or keep it after they get it. The wages of miners are higher than those of other laborers, and when the mines are very rieh the proprietors heeome possessed of immense sums. In the minieg districts nearly every man when he goes out walking over the hills keeps a lookout for "indications," in hope of finding some vein that may make him a millionaire.

The poorest white laborer in California working by the month gets a dollar a day besides board, and as the French or German laborer ie Europe receive less than 50 eents a day, the Californian ean, with his earnings, hire two Europeans to work for him, or he ean purchase as mueh as two can produce, or he ean afford to consume as much as two European laborers do. He wants their merchandise and they want his gold; so he exehanges one of his days' work for two of theirs. In this way he may live rich, even if on aeeount of his extravagant habits he does not die rieh. But the disproportion between wages in California aud Europe is still greater in other oeeupations. The average pay of lahorers and the average profits of husiness men in California are from three to five as great as in eontinental Europe for labor or husiness of the same kind, and the differenee represents a ten-fold profit. If it eosts 75 eents per day to live, the man who gets $1 per day ean lay by capital twice as fast as the man who makes only 87½ eents. If the laborer of California had lived during the last 17 years with as little unneeessary expenditure as the lahorer of Germany, there would seareely be a man among the old residents without his thousands.—*Mineral Resources.*

FREEDMEN'S WAGES IN SOUTH CAROLINA. A eolored farm lahorer in South Carolina receives about $100 a year besides food, whieh eosts about $50, making his pay $150. Women and seeond-rate men hire for their food and from $5 to $7 a month in money.

PATENT OFFICE REPORTS, from 1843 to 1847, MECHANICAL are wanted for duplicate copies at this office. Parties having them for sale will please state price, and address DEWEY & CO., Mining and Scientific Press office, San Francisco.

PACIFIC RAILROAD COALITIONS.—It is rumored in St. Louis that the Atlantic & Pacific and Union Pacific, Eastern Division, which opposed each other last winter in obtaining legislative indorsement for Congressional subsidies, each denying an exclusive franchise to the Pacific *via* Albuquerque, have united forces, and will attempt to engineer through Congress, after first receiving legislative indorsement of Missouri and Kansas, a mammoth subsidy. The coalition is upon a basis that the Union Pacific, Eastern Division, shall have a road to Denver, with branches to Albuquerque, and the Atlantic & Pacific from Fort Scott, Kansas, to the Pacific, *via* Albuquerque, the companies in effect to be consolidated, though worked under respective charters and nominally different boards. This combination will have great strength at the East, the Atlantic & Pacific being principally owned in Boston, and the Union Pacific, Eastern Division, in Philadelphia. *Western Railroad Gazette, (Chicago).*

PRESERVING SPECIMENS BY CARBOLIC ACID.—The use of this acid for the preservation of all kinds of organic matter, is as old as its discovery. A solution of the acid in ether may be conveniently used.

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THE SUBSCRIBER, HAVING SERVED FOR THE LAST five years as Secretary of various mining companies, feels fully competent to serve in that capacity. Any parties wishing to secure the services of a Secretary can be accommodated on reasonable terms. Information given, and all necessary papers correctly made out.
Having had a long experience in the purchasing of goods and machinery for miners, parties in the mines will find it to their advantage, where purchasing agents are employed, to send their orders to the undersigned.
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Pump Leather.
The attention of MINING COMPANIES, and others requiring a superior article for Hydraulic purposes, is invited to the heavy Oaked Tanned Pump Leather, manufactured and prepared expressly by the undersigned.
TRADE SANTA CRUZ TANNERY E. JONES & Co MARK.
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PATENT
Boiler Scraper and Tube-Cleaner.


IT IS THE CHEAPEST, MOST durable, easiest to adjust, and cleanest apparatus to use for the purpose designed, yet offered to the public. Being constructed on simple and mechanical principles, it is not liable to get out of order, and will continue to perform its office until the materials are worn out. It can readily be adjusted, even by any inexperienced person—will scrape off the scales and cleanse the tubes just as smooth and clean as they were when new, without in the least affecting their inner surface, as the Elliptic Spring Scraper has a smooth square edge, and springs in or out to fit the tubes. It is particularly applicable for steamboat boilers when muddy water is used.
A continuous iron rod runs through the center of the top and bottom hubs. The soft steel scrapers are fastened with screws to the hubs, under the caps, which cover and protect the screws that fasten the scrapers on the hub. The scrapers are expanded or contracted by screwing or unscrewing the lower hub,—first loosening the cap. There is a collar on the rod to prevent the scrapers being jammed. An elastic or flexible brush or scraper, made of leather, rubber, or some pliable material, is attached to the nut for the purpose of removing from the tube the scale and dust loosened by the action of the scrapers.
These scrapers are made from one to six inches in diameter—the prices of those from one to three inches ranging from $5 to $12. They are now extensively used in the Eastern States. Quite a number have already been sold in this State.
For sale by McAfee, Spiers & Co., boiler makers, Howard street, between Fremont and Beale, San Francisco, and at the Union Foundry, Sacramento. E. M. D., P. O. box 17, San Francisco, Manufacturers' Agents. 24v17tf

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Treatment of all Deformities of the Body, by DR. A. FOLLEAU'S process, 624 Washington street, up stairs, Washington Baths Building, between Montgomery and Kearny streets.
DR. A. FOLLEAU
Has his studies and manufactories in the same building. Every kind of Apparatus, Trusses, Orthopedic Instruments, Artificial Limbs, etc., are manufactured and applied by himself.
He has no connection with any Agency. 24v14-11ptf
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Movable-Tooth and Perforated Circular Saws,
Perforated Mulay, Mill and Cross-Cut Saws, with Adjustable Sockets.
SAW-GUMMERS, SWAGES, CANT DOGS,
Etc., have established an office for the sale of the above articles, at
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What they are;
How Assayed;
How Concentrated;
And How Worked;
With a Chapter on the
BLOW-PIPE ASSAY OF MINERALS.
By WM. BARSTOW, M. D.
Published by A. Roman & Co., San Francisco.
For sale at this Office.—Price, One Dollar.
With the aid of this Book, the miner can assay his own ores, requiring but few materials, etc., except such as are generally to be found in the interior towns. 21v15tf
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GIANT POWDER,
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JOHN W. QUICK, Manufacturer,
Removed to Vulcan Iron Works, Fremont street, between Mission and Howard, San Francisco.
Screen Punching in all its branches, at rates reduced from 25 to 40 per cent. less than the established rates. I can furnish Improved Quartz Screens several sizes finer than any Screen ever punched, giving universal satisfaction, and for strength, cheapness and durability are not excelled. Also, Punched Screens of all sizes and fineness made from all qualities of material, for Quartz, Cement, Flour and Rice Mills, etc. Screen Punching made a specialty; therefore millmen forwarding their orders to me will receive none but the best. Orders solicited.
N. B.—J. W. QUICK is the only competent and successful manufacturer of Screens in the State, having made Screens for the principal mills in this State and adjoining Territories for many years. Quartz mill owners using punched Screens which have universally failed to give satisfaction, when visiting the city will please call and see me. 5v17-1y
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COMPANY.

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" YOSEMITE.....
" CORNELIA.....CAPT. W. BROMLEY
" JULIA.....CAPT. E. CONCKLIN.
Two of the above steamers leave BROADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted), one for Sacramento and one for Stockton, those for Sacramento connecting with light-draft steamers for Marysville Colusa, Chico, and Red Bluff.
Office of the Company, northeast corner of Front and Jackson streets.
E. M. HARTSHORNE,
13v12 President.
International Hotel,
JACKSON STREET
BETWEEN MONTGOMERY AND KEARNY STS.,
SAN FRANCISCO, CAL.
THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The Beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.
Prices varying from $1 50 to $2 per day for Board and Room.
FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.
Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents
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Pacific Powder Mills.
SUPERIOR BLASTING AND SPORTING GUNPOWDER
Black Diamond, in 1lb canisters.
do do in ½lb canisters.
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do do do in ½ kegs.
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do do in ¼ kegs.
do do in 25lb kegs.
Blasting and Mining Powder $2 25 per keg.
Safety Fuse and Shot for sale by
HAYWARD & COLEMAN Agents.
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Removal and Partnership.
Notice is hereby given, that I have removed from my old stand on Beale street, and have formed a co-partner-ship with Mr. A. CAMERON, for the purpose of carrying on the business of Stair-Building, Wood-Turning and Scroll Sawing. The business will be conducted as formerly at Cameron's, corner of Market and Beale streets, and also at Nos 185 and 187 Brannan street, where ample steam power and all necessary facilities have been provided for every branch of the business.
Different sizes of Redwood Balusters constantly on hand for sale. Also Spanish Cedar, Walnut and California Laurel.
13v17-3m N. P. LANGLAND.

To Inventors on the Pacific Coast.

Messrs. DEWEY & CO.

Take occasion to call your attention to the following rules, regulations and suggestions relative to the obtaining of LETTERS PATENT of the United States:

Steps Necessary to Procure a Patent.

The FIRST thing required is a model, if your invention can be represented by one. It is not only immediatcly necessary in preparing the papers, but the law demands that the inventor shall, in all cases, furnish a model, which must not exceed twelvo inches in any of its dimensions. A model of less size will answer when more convenient. It should he neatly made, and of hard wood or metal, or both, varnished or painted; the name of the inventor should be engraved or painted on it in a permanent manner.

When the invention consists of an improvement on some known machine, a full working model of the whole will not be necessary. It should he sufficiently perfect, however, to show, with clearness, the nature and operation of the invention.

As soon as the model is ready, it should be carefully boxed and shipped by express, or otherwise, to our address, namely: DEWEY & CO., *Mining and Scientific Press, San Francisco.* Prepay expenses and send express receipt to us by mail.

A full description must also be sent witb the model, embodying all the ideas of the inventor respecting the improvement.

Simultaneously with tho model, the inventor should send us the first instalment of the Government fee, fifteen dollars. The money may be forwarded either by express with the model, or by mail. The safest way to remit is by draft on San Francisco, payable to our order. Always send a letter with the model, and also the remittance, stating the name and address of the sender. On receipt of the model and Government first fee of $15 in currency, the case is duly registered on our books, and the application proceeded with as fast as possible. When the documents are ready we send them to the inventor by mail, for his examination, signature and affidavit, witb a letter of instruction, etc. Our fee for preparing the case is then due and will he callcd for. The case will then be presented to the Patent Office, and as soon as the patent is ordered to be issued the Government last fee of $20 in currency will be required. The law states that every patent shall be dated as of a day not later than six months after the time at which it was passed and allowed, and notice thereof sent to the applicant or bis agent. And if the final fee for sucb patent be not paid within the said six months, the patent shall be withheld, and the invention thercin described sball become public property as against the applicant therefor.

Inventors who do business with us will be notified of the state of their application in the Patent Office, when it is possible for us to do so We do not require the personal attendance of the inventor, unless it is one of great complication, as the business can be well done by correspondence.

When the invention consists of a new article of manufacture, a medicine, or a new composition, samples of the separate ingredients, sufficient to make the experiment, and also of the manufactured article itself must be furnished, with full description of the entire preparation.

The average time required to procure a patent, when the case is conducted at our agency, is ten weeks. We frequently get them through in less time but in other cases, owing to delay on the part of Government officials, the period is sometimes extended to four or five months, and even more. We make a special point to advance our cases as rapidly as possible.

Advantages to Patrons of Our Agency.

Some of the advantages to he obtained by patronizing us may be enumerated as follows:

1. Inventors on this coast having their applications for patents made out through our agency, can sign their papers at once, and thus secure their rights at least *three months sooner* than by trusting the same to distant agencies, situated at New York or Washington.

2. As many of the inventions conceived here are especially adapted to the Pacific coast, they should be properly brought out here, which can be accomplished (if the invention is a meritorious one) by illustrating the subject, with a careful description, in the columns of tho MINING AND SCIENTIFIC PRESS, *free of charge;* the inventor paying simply for the engraving, which will he executed at a moderate charge. The same cuts can be subsequently used for books, letters or circulars. In a word, we are determined to make it of decided interest for every inventor on this coast to patronize home talent and enterprise.

3. Most inventions on this coast are for objects and purposes but little understood by parties at Washington or other parts of the East. Our mining machinery, processes and operations are best understood by those familiar with their use; and a personal verbal explanation is oftentimes of important service, and enables us to he more successful than agents generally.

4. Remittances of money made by individual inventors to the Government sometimes miscarry, and it has frequently happened that applicants have not only lost their money, but their inventions also, from this cause and consequent delay. We bold ourselves responsible for all fees entrusted to our agency. By sending duplicate correspondence to our Washington agent we avoid hazardous delays.

American, Waltham, Watches—The Best, The Cheapest.

Recommended by Railway Engineers, Conductors and Expressmen, and the most exacting class of watch-wearers, as superior to all others for strength, steadiness, accuracy and durability.

Unscrupulous importers occasionally place a worthless Swiss imitation in the market. To avoid imposition, tbe purchaser should invariably demand a certificate of genuineness.

For sale hy all respectable dealers.

ROBBINS & APPLETON,
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R. B. GRAY & CO.,
Agents for California,
San Francisco, Cal.

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N. W. SPAULDING,
Saw Smithing and Repairing
ESTABLISHMENT.



Nos. 17 and 19 Fremont St., near Market,
MANUFACTURER OF

SPAULDING'S
Patent Tooth Circular Saws.

They have proved themselves to be the most durable and economical Saws in the World.

EACH SAW IS WARRANTED IN EVERY RESPECT.

Particular attention paid to construction of

Portable & Stationary Saw Mills.

MILLS FURNISHED AT SHORT NOTICE,
At the lowest Market Prices.

The Chili Exposition.

THE UNDERSIGNED WOULD CALL THE ATTENTION of the manufacturers of California to the National Exposition to be held during the coming spring in Valparaiso, Chili, next to California, is the most important country on the Western Coast of America. And this Exposition cannot fail to create a demand for our staple manufactures, if they are well represented. The writer has resided for some years in Chili, and is familiar with its people, business and language; is a practical mechanic, and proposing to visit the Exposition, offers to take charge of machinery or other material that parties may wish to send thither, and pledges himself faithfully to bring before the public of Chili their respective merits. He can be seen daily, at his office, No. 49 Montgomery Block. Prompt action is necessary.

DAVID R. SMITH,
Civil and Mechanical Engineer.

REFERENCES—Hanscom & Co. (Ætna Iron Works); A. S. Hallidie (President Mechanics' Institute); Lynch & Andrade.

San Francisco, November 21st, 1868. 34v17-tf

Pacific Mail Steamship Co's

STEAMSHIPS FOR

NEW YORK, JAPAN AND CHINA.

LEAVE WHARF, CORNER OF FIRST AND Brannan streets, at **11** o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPINWALL for NEW YORK:

On the **6th, 14th, 22d** and **30th** of every month.

Steamer leaving San Francisco on the 6th touches at Manzanillo. All touch at Acapulco.

Departure of the 14th is expected to connect with the French Trans-Atlantic Co.'s steamer for St. Nazaire, and English steamer for South America. Through tickets can be obtained.

Departure of 14th is expected to connect with English steamer for Southampton and South America, and Australia, and P. M. S. Co's steamer for Central America. Through tickets can be obtained.

STEAMERS FOR DECEMBER, 1868.

The following Steamships will be dispatched on dates as given below:

December 5th—MONTANA.....Captain West, Connecting with ALASKA, Capt. Gray.

December 14th—CONSTITUTION....Capt. Wm. H. Hudson Connecting with RISING STAR, Capt. King.

December 22d—GOLDEN CITY.....Capt. J. M. Cavarly, Connecting with HENRY CHAUNCEY, Capt. Connor.

December 30th—COLORADO.....Capt E. S. Farnsworth, Connecting with ARIZONA, Capt. Maury.

Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult.

An experienced Surgeon on board. Medicine and attendance free.

These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.

Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—if desired an amount of £10 to £20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England.

The Steamship GREAT REPUBLIC, Capt. S. Doane, will be dispatched on MONDAY, January 4th, 1869, at 12 o'clock M., from wharf corner of First and Brannan streets, for HONGKONG, connecting at Yokohama with the steamer COSTA RICA for Shanghai.

For Merchandise and Freight for New York and way ports, apply to Messrs. WELLS, FARGO & CO.

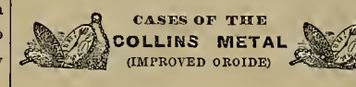
For passage and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets

OLIVER ELDRIDGE, Agent.

THE CELEBRATED

IMITATION GOLD

$15. Hunting Watches. $20



Special Notice.—Our superior Oroide Watches having recently been imitated, and worthless watches sold in New York, Boston, Chicago, and other cities, represented as our watches, we hereby caution the public against them, and give notice that we are in no way responsible for these bogus concerns, and only those purchasing directly from us can secure a genuine Watch of our manufacture. We have recently greatly improved our Oroide in appearance and durability, and, to protect the public from imposition hereafter, have named it the "COLLINS METAL," and we give notice that any one making use of this name will be prosecuted to the extent of the law.

This metal has all the brilliancy and durability of gold; cannot be distinguished from it by the best judges; retains its color till worn out, and is equal to gold excepting in intrinsic value. All our Gentlemen's Watches are *Full Jeweled Patent Levers;* those for Ladies an improved Escapement, better than a lever for a small Watch; all in Hunting Cases, and fully guaranteed by special certificate. The $15 Watches are equal in neatness, style of finish, general appearance, and for time, to a gold one costing $150. Those for $20 are of *extra* fine finish, and are fully equal to a Gold Watch costing $200. Chains of every style, from $2 to $6. Also, Jewelry of the Collins Metal in every style.

To Clubs, where six Watches are ordered at one time, we send ONE EXTRA free of charge. All our prices are in Currency.

Goods sent to any part of the United States by express, to be paid for on delivery. Money need not be sent with the order, as bills can be paid when goods are taken from the express office. Customers must pay all express charges. We employ no agents; orders must therefore be sent directly to us. Customers in the city will remember that our *only Office* is

Nos. 37 and 39 Nassau street, New York,

Opposite the Post Office, (up stairs.)

C. E. COLLINS & CO.

Citizens of Toronto and the Dominion generally, take notice. We have hundreds of testimonials. But you need no further evidence than the following from one who is well known among you. Here is his proof positive.

Harry Hazleton, the well known author, says:

"I have always looked upon cheap watches as humbugs, and dealers in them as little better than swindlers. At the request of a friend, I have worn for three months, the watch he purchased of C. E. Collins, and for which he paid $15. It accurate time, retains its perfect golden appearance, and I can really see no difference between it and my own, which cost five times the amount of the Collins Watch."

Mr. Hazelton adds:

"I have since purchased FIVE of these watches, at the request of friends, and those for whom they were intended are perfectly satisfied. Others are seeking for them, and I fancy that Mr. C. will find some difficulty in supplying the constantly increasing demand."

☞The regular price of the watch is $15, and others costing $20. These are superbly finished, and really superior to any article placed upon the market, costing five times that sum.

Office State Capital Reporter, 42 and 44 J street, Sacramento, Cal., July 15, 1868:

C. E. COLLINS & Co.—Gentlemen:—Wells, Fargo & Co. delivered Watch and Chain, as per order, paid bill on presentation. The Watch and Chain give entire satisfaction, and several of my friends wish the same quality of watch and chain. One is chief editor of this paper, and two others are the publishers of this paper, and the others are for friends of mine, and by wearing your goods will make you a large sale in this city. I therefore wish you to send me seven watches and seven chains, of same quality as those you sent me, price paid you $15 for watch, and $6 currency for chain. I return you the guarantee, it may assist you in ascertaining the exact kind of goods sent me, the number of the watch sent is 66,932. If this order sent turns out as satisfactory as the first, we will give you a good editorial notice, and help you along as far as practicable. I send this order not for my benefit, but for yours and to accommodate my friends. Send to E. K. Phipps, office of "State Capital Reporter, Sacramento, California."

Yours, respectfully,

E. K. PHIPPS.

Address,

C. E. COLLINS & CO.,
37 and 39 Nassau street, New York.

10v17eow3m

LOOK AT THESE PRICES

FOR GENUINE

WALTHAM WATCHES

The "P. S. Bartlett" movement, with extra Jewels, Chronometer Balance, Patent Dust Cap, Patent Safety Pinion, and all other late improvements, in a solid 3oz. Coin Silver Hunting case, with Gold Joints, $27 coin.
The same in 4oz. case, $30. In 5oz case, $33 coin.

The "Waltham Watch Co." movement, with extra Jewels, Chronometer Balance, Patent Dust Cap, Patent Safety Pinion, etc., in 3oz. case, with Gold Joints, $30 coin.
The same in 4oz. case, $33. In 5oz., $36 coin.

The "Appleton, Tracy & Co." movement, with extra Jewels, Chronometer Balance, Patent Dust Cap, Patent Safety Pinion, etc., in 3oz. case, Gold Joints $34 coin.
The same in 4oz. case, $37. In 5oz., $40 coin.

"P. S. Bartlett" Watch in 2½oz. 18 carat Gold Hunting case, $80 coin.
"Waltham Watch Co." Watch, in 2½oz 18 carat Gold Hunting case, $84 coin.
"Appleton, Tracy & Co." Watch, in 2½oz. 18 carat Gold Hunting Case, $87 coin.
Any additional weight at $1 per dwt., or $20 per oz. extra.

We will send any of the above by Wells, Fargo & Co's Express, with bill to collect on delivery, and give the purchaser the privilege to examine the Watch before paying. All Express charges, however, to be paid by the purchaser. But if the amount of the price of the Watch is remitted to us with the order, we will prepay the Express charges to San Francisco ourselves. In sending money, drafts on Wells, Fargo & Co. are preferred.

We wish it distinctly understood that these watches are the very best, with all the latest improvements, and that they are in perfect running order, and if any one does not perform well, we will exchange it, or refund the money.

Please state that you saw this in the MINING AND SCIENTIFIC PRESS.

HOWARD & CO.,
Jewelers and Silversmiths,
619 Broadway, New York.
One Block above the Metropolitan Hotel.

Every one visiting New York is invited to call at our establishment.

In order that all may address us with confidence, we invite attention to the following:

Office of Wells, Fargo & Co.,
84 Broadway, New York, Oct. 26, 1868.

We can cheerfully commend Messrs. Howard & Co., No. 619 Broadway, New York, to our friends, as a reliable and trustworthy firm, with the assurance that all orders sent them will have faithful and prompt attention.

C. GODDARD, Treas.
For Wells, Fargo & Co.

And we also refer to

I. W. RAYMOND, Esq., San Francisco.
B. C. HOWARD, Esq., San Francisco.
T. R. BUTLER, Esq., U. S. Mint, San Francisco.
W. S. HOBART, Esq., Virginia City, Nevada.

21v17-4t—22 26-26

CIGAR AND CIGARETTE
Roller and Wrapper.



This useful little article is the GREATEST INVENTION of the age for the benefit of smokers, reducing the cost of Cigars and Cigarettes to the mere cost of the Tobacco. Very convenient to carry in the POCKET, producing no smell, and adapted to the use of any tobacco. In two sizes and three styles—Japanned, Brass, and Silver plated. Sample machines, with 100 wrappers, sent free of postage on receipt of $2. The highest prize awarded at the Fair of the American Institute, September and October, 1867 For particulars, address H. C. Witt, 57 Cedar street, New York.

Beware of infringements. All genuine have my name printed on the bands.

E. M. DEWEY, Agent for Pacific States, 423 Washington street, San Francisco. 24v17-6m

Scientific Churn.

Warranted to make Butter, from sweet or sour milk or cream, in from

TWO TO FIVE MINUTES.

Having sold the Patent Right of David W. Seeley's "Scientific Churn" for all of the territory west of the Rocky Mountains, except one half of Oregon, and the counties of

Monterey, Santa Cruz, Santa Clara, San Mateo, Alameda, Marin, Sanoma, Solano, Yolo, Sacramento and San Joaquin,

To McCONATHY & KINCAID,

OF PACHECO,

PARTIES WISHING TO PURCHASE

State or County Rights,

Will please apply to them.

J. N. SEELEY.

State or County Rights, or Churns, for sale by

McCONATHY & KINCAID,

PACHECO, CAL.

San Francisco, Dec. 3, 1868. 24v17-1m

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CONDITION OF THE MINING INTERESTS IN ARIZONA.—Gov. McCormick's message to the Legislature of Arizona, which recently convened, has the following pithy review of the condition of the mining interests in that Territory:

The Wickenburg gold mines are worked without interruption and steadily yield a large revenue. The Vulture lode, the Comstock of Arizona, now has a wide and merited fame. It is one of the richest, most extensive and remarkable deposits of gold quartz upon the continent, and its return to this time is believed to be but an earnest of what may be expected from it in the future. Unfortunately the mills erected in the vicinity of Prescott were put either upon worthless lodes or upon those in which ores predominate which cannot be made to pay by ordinary treatment. The chlorination process has lately been introduced there, and it is expected it will prove successful as in California and Colorado. If such is the case, the hopeful people who have clung to that part of the Territory, under most annoying delays and disappointments, will speedily reap the reward due to their patience and pertinacity.

Upon the Colorado River little is doing in mining; the low price of copper has not warranted the continuous working of the lodes at William's Fork and other points, although a renewal of operations at an early day is promised. From the Eureka District there is a steady and profitable shipment of lead ore to San Francisco, and work upon several silver lodes in that district is vigorously prosecuted, as it is on several gold lodes near La Paz and Hardyville.

Below the Gila, the Cababi mines continue to yield a good return of silver, and a fine mill is in process of erection at Apache Pass, where the gold lodes are attracting much attention and give excellent promise. Confidence in the mineral resources of the Territory is unshaken, and those most familiar with them believe that once secure from Indian depredations and made accessible by the iron rail, Arizona will take front rank among the gold and silver-producing districts of the world.

KILAUEA AGAIN ACTIVE.—EARTHQUAKES. The volcano of Kilauea is again active. Advices from Hawaii state that a severe shock of earthquake was felt on the 16th of November, and a letter just received, dated Nov. 27th, says: For "the last ten or twelve days earthquakes have been much more frequent than during three months preceding. The atmosphere has also much of the time been filled with smoke, which seems to come from Mauna Loa."

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FOR SALE,

A Machine for turning Broom Handles.

Will be sold low, as we have no further use for it. Apply at the Wooden Ware Factory of

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Importers and Wholesale Deal in
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Blank Books, School Books,
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☞ Special attention given to orders from Country Merchants
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Etc., On hand and Manufactured to order.
☞ Goods shipped to all parts of the State. Orders respectfully solicited. 5v8-3m

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Manufacturer of
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6v14tf SAN FRANCISCO

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SEAL ENGRAVER,
AND LETTER CUTTER,
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6v16

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Warerooms up stairs. A large variety of Desks always on hand; all kinds of Office Furniture and Cabinet Work made to order.
18v17qr

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ACIDS AND CHEMICALS OF ALL KINDS.
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Of all kinds of Ores, and the
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For Gold-Bearing Sulphurets, Arsonurets, and Gold and Silver Ores generally.
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Office of the Mining and Scientific Press, 414 Clay street,
16v1tf SAN FRANCISCO.



19v17tf

New Mining Advertisements.

Golden Rule Mining Company, Tuolumne County, California.—Regular Bi-monthly dividend (No. 17) of the Golden Rule Mining Company, of Tuolumne County, Cal., of 2½ per cent. per month, or fifty cents per share, is now declared, and will be paid to the Stockholders on and after the 26th inst. Office, 432 Montgomery street, Room No. 5.

J. B. RUSSELL, Secretary.
W. T. BOSWORTH, President.
A. S. PHIFER, Superintendent of Mine. dec26

Rattlesnake Gold and Silver Mining Company, Brown's Valley, Yuba County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of December, 1868, an assessment of seven dollars and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, No. 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-first day of January, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eighth day of February, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary.
Office, 318 California street, up stairs, San Francisco. d26

Rippon Gold and Silver Mining Company.—Location of Works: Silver Mountain District, Alpine County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the fifteenth day of October, 1868, the several amounts set opposite the names of the respective shareholders as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Curtis Palmer	148	10	$10 00
William Brown	11	5	5 00
William Brown	232	10	10 00
William Brown	233	10	10 00
William Brown	234	10	10 00
William Brown	35	10	10 00
William Brown	240	3	3 00
William Brown	276	25	25 00
William Brown	277	45	45 00
Brown & Kent	15	10	10 00
Abigail Brown	20	5	5 00
Abigail Brown	207	5	5 00
M Nolan	266	10	10 00
Daniel Davidson, endorsed to James Wilson	46	10	10 00
George Patterson	53	5	5 00
James S S Robinson	56	10	10 00
P M Ellis	66	1	1 00
H O Scott	71	55	55 00
John Sanquet	128	15	15 00
B Curran, not issued	272	10	10 00
B Curran, not issued	273	10	10 00
John Bagnell	77	7	7 00
Matthew Davidson	79	12	12 00
Patrick Carroll	224	10	10 00
P N Wellin	221	5	5 00
Edward Cambell	181	10	10 00
Chas B Montague	120	25	25 00
A J Oavis	127	10	10 00
Lott Mulenly	157	5	5 00
Thomas Fay	58	5	5 00
David M Short	134	10	10 00
Chas Mayer	135	10	10 00
Benjamin C Levy	137	5	5 00
Lazard Godchaux	139	10	10 00
Lazard Godchaux	160	5	5 00
Lazard Godchaux	162	5	5 00
Lazard Godchaux	229	5	5 00
Lazard Godchaux	230	5	5 00
C P Cuninghan	156	5	5 00
P Cunningham	174	5	5 00
Michael English	152	25	25 00
Frank Mahon	165	25	25 00
Thos McCullough	159	10	10 00
Stephen McGillan	164	5	5 00
Stephen McGillan	165	5	5 00
P J McMahon	170	25	2 00
P J McMahon	183	25	25 00
Jas Barrett, not issued	189	25	125 00
Elizabeth Curran	194	10	10 00
Elizabeth Curran	195	10	10 00
N C Briggs	209	10	10 00
F H Moore	210	20	20 00
C B Gregory	211	20	20 00
Henry Eno	212	20	20 00
Henry Eno	278	25	25 00
David Lovell	214	10	10 00
Jacob Martenstein	225	1	1 00
M G Shove	264	20	20 00

And in accordance with law, and an order of the Board of Trustees, made on the fifteenth day of October, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., auctioneers, No. 327 Montgomery street, San Francisco, on Saturday, the twenty-third day of January, 1869, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

CURTIS PALMER, Secretary.
Office, No. 87 Stevenson street, between First and Second streets, San Francisco. dec24

Mining Notices--Continued.

Alamo Gold and Silver Mining Company.—Location of the Mine, Lyon County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fifth day of November, 1868, an assessment of twenty-five cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 319 California street, (Room No. 5 Hayward's Building) San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirty-first day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the thirtieth day of January, 1869, to pay the delinquent assessment, together with cost of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F POPE, Secretary.
Office, No. 319 California street, (Room No. 5) San Francisco. no28
☞ Gold Hill News copy and send bill to this office.

Colorado Silver and Copper Mining Company, Arizona Territory.

NOTICE.—The Annual Meeting of Stockholders of the Colorado Silver and Copper Mining Company, of Arizona Territory, will be held at the Company's office, No. 713 Montgomery street, Room No. 40 (3d story), on MONDAY, DECEMBER TWENTY-EIGHTH, 1868, at 3 o'clock, P. M., for the election of Trustees and the transaction of such other business as may properly come before it.

nov14 B. W. MUDGE, Secretary.

Diamond Copper Mining Company. Location: Rockland District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-eighth day of October, 1868, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 40 Merchants' Exchange Building, California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the tenth (10th) day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty eighth day of December, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. A. COOLIDGE, Secretary.
Office, Room No. 40 Merchants' Exchange Building, California street, San Francisco. oc31

POSTPONEMENT.—The day for deeming stock delinquent on the above assessment is hereby postponed until the thirty-first day of December, 1868, and the sale thereof until Thursday, the twenty first day of January, 1869. By order of the Board of Trustees.

dec12 J. A. COOLIDGE, Secretary.

AS AN ADVERTISING MEDIUM throughout the whole Pacific States and Territories, the PRESS is unsurpassed. Rates moderate.

Great Central Mining Company.—Location of Works: Yuma County, Arizona Territory.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the ninth day of October, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
P Calhon	186	10	$25 00
Wm H Cleveland	313	25	62 50
Mrs Ann G Cummings	235	25	62 50
Jas H Foster	91	100	250 00
Jas H Foster	141	10	25 00
Jas H Foster	142	20	50 00
Jesse Gelb	73	25	62 50
Jesse Gelb	74	25	62 50
Jesse Gelb	75	20	50 00
Jesse Gelb	76	10	25 00
Jesse Gelb	78	10	25 00
Jesse Gelb	79	5	12 50
Jesse Gelb	80	5	12 50
S R Harris	293	50	125 00
S R Harris	299	50	125 00
S R Harris	318	50	125 00
Jas Kellogg	175	50	125 00
A J Jeghers	3	5	12 50
A J Jeghers	4	5	12 50
A J Jeghers	5	5	12 50
A J Jeghers	6	5	12 50
A J Jeghers	7	5	12 50
August Ludorff	241	10	25 00
Dan'l McLeod	290	90	225 00
Jno R Mason	128	10	25 00
Camillo Martin	267	20	50 00
Ford H Rogers	329	65	162 50
Louis Vesaria	319	25	62 50
Louis Vesaria	320	25	62 50

And in accordance with law, and an order of the Board of Trustees, made on the ninth day of October, A. D. 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at their salesrooms, No. 426 Montgomery street, San Francisco, on the thirtieth day of December, A. D. 1868, at the hour of 4 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

O. D. SQUIRE, Secretary.
Office, No. 414 Montgomery street, San Francisco. dec5

Nevada County Gold Mining Company, Nevada County, California.

NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the fifth day of October, A. D. 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Wm B Peake	425 to 450 inc.	26	$26 00
Wm B Peake	261 to 299 inc.	39	39 00
Wm B Peake	300 to 315 inc.		
	341 to 350 inc.	26	26 00
Unknown	141 to 245 inc.	107	107 00
Unknown	257 to 260 inc.	4	4 00
Unknown	355 to 408 inc.	53	53 00
Unknown	471 to 500 inc.	30	30 00
Unknown	91, 93, 420, 462	4	4 00

And in accordance with law, and an order of the Board of Trustees, made on the fifth day of October, A. D. 1868, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the Company, No. 9 Merchants' Exchange, San Francisco, Cal., on Saturday, the twenty-sixth day of December, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

W. AUG. KNAPP, Secretary.
Office, No. 9 Merchants' Exchange, California street, San Francisco. no28

Patrocina and Dolores Silver Mining Company, Guazapares District, State of Chihuahua, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the ninth day of December, 1868, an assessment of two dollars ($2) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, C. B. Gifford, N. E. corner of Second and Howard streets, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eighth (8th) day of January, 1869, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fifth day of January, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

C. B. GIFFORD, Secretary.
Office, N. E. corner of Second and Howard streets, San Francisco. dec12

San Francisco and Castle Dome Mining Company. Location of Works: Castle Dome County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fifth day of November, 1868, an assessment of three cents per share was levied upon the capital stock of said Company, payable immediately, at the office of the Treasurer, A. A. Gladding, No. 420 Montgomery street, San Francisco, in United States gold and silver coin.

Any stock upon which said assessment shall remain unpaid on the twenty-eighth day of December, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twelfth day of January, 1869, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

A. R SMITH, Secretary.
Office, No. 428 California street, 3d floor, San Francisco. no28

U. S. Grant Mining Company.—Location of Works: Carlisle, Nevada.

NOTICE.—There are delinquent upon the following described stock, on account of assessment levied on the ninth day of November, 1868, the several amounts set opposite the names of the respective shareholders, as follows:

Names.	No. Certificate.	No. Shares.	Amount.
Alpheus Bull	2	218	$109 00
E B. Mott, Jr	6	150	75 00
Geo Mohrel	10	10	5 00
Geo Mohrel	11	10	5 00
Geo Mohrel	12	10	5 00
Geo Mohrel	13	5	2 50
Geo Mohrel	14	5	2 50
Silas Garber	19	10	5 00
Jas P Wheeler	30	50	25 00
Jas P Wheeler	31	50	25 00
Jas P Wheeler	32	50	25 00
Jas P Wheeler	33	50	25 00
Jno Vail	34	20	10 00
L J Flint	37	20	10 00
I L Requa	38	50	25 00
I L Requa	39	50	25 00
I L Requa	40	50	25 00
I L Requa	41	50	25 00
J L Van Bokkelen	48	4	2 00
L A Booth	49	50	25 00
L A Booth	50	54	27 00
L A Booth	51	100	50 00
J Biggs		4	2 00
McFarland		16	8 00
Sarah Snyder		32	16 00
N M Baxter		20	10 00

And in accordance with law, and an order of the Board of Trustees, made on the ninth day of November, 1868, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by J. C. Merrill & Co., auctioneers, No. 24 California street, San Francisco, California, on Saturday, the second day of January, 1869, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

ENOS TAYLOR, Secretary.
Office, No. 226 Clay street, San Francisco. dec19

Machinery.

VARNEY'S PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has everre-quired repairs. The constant and increasiug demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others.—They bring the pulp so constantiy and perfectly in contact with quicksliver, that the particles are rapidly and completely absorbed.

All men are invited to examine these pans and setters for themselves, at the **PACIFIC FOUNDRY,**

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Brodie's Patented Improvements



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BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:

No. 1—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price.....$600

No. 2—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour..... 850

No. 3—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour..... 1,200

These Crushers have been erected at several mines in the State of Nevada, and others in Calaveras, Tuolumne and Mariposa counties, to whom applicants can be referred as being the most efficient, cheapest, and least weight compatible with strength and durability, of any Crusher yet erected.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on applicatiou to the subscribers.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.

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Mill Picks, Sledges, Hammers, Picks,

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10v14qr

Notice to Miners, Well-Borers and Water Companies.

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Fire, Hose and Machine Belting.

THE SUBSCRIBER CONTINUES TO MANUFACTURE Oak Tanned Leather Fire Hose, warranted superior to Eastern Hose, manufactured at the Sixth Street Tannery, San Francisco.

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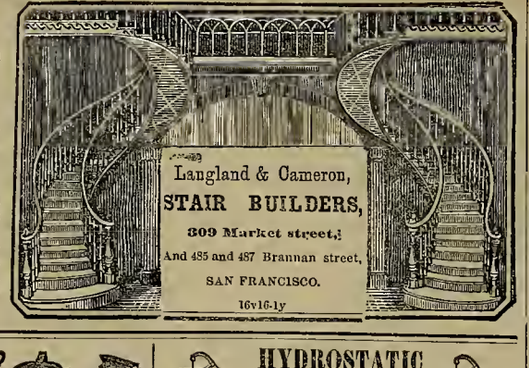
To any part of the coast. Practical workmen sent, when desired, to put up the same.

Work Warranted to Fit

by simply sending a correct ground plan of stairs, together with hight of story.

Wood Turning and Scroll Sawing of all kinds promptly executed.

☞ Spanish Cedar, Walnut and California Laurel always on hand for sale.



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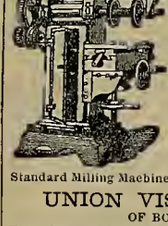
STAIR BUILDERS,

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16v16-1y



Standard Milling Machine.



Pipe Vise, with or without Extra Jaw.

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OF BOSTON, MASS.

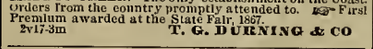
Extra Jaw, and heavy Vises, Warranted for heavy work. New style Wood and Covered Screw Vises, forty styles and kinds; Standard Milling Machines, simple, great capacity, power and strength—two sizes, large, 2,300 lbs; small, 950 lbs. For sale by the trade.

23v16-1y C. H. NOTT, Pres.

PACIFIC FILE WORKS,

No. 53 Beale Street, bet. Market and Mission,

SAN FRANCISCO.



Files Re-cut and warranted as good as new, with a saving of fifty per cent. REAPER AND MOWER SECTIONS MADE TO ORDER. The only establishment on the Coast. Orders from the country promptly attended to. ☞ First Premium awarded at the State Fair, 1867.

2v17-3m **T. G. DURNING & CO**

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Blacksmith and Machine Shop,

HAS REMOVED

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SAN FRANCISCO.

All kinds of Edge or other Tools made to order. Imported Tools, if too hard or soft, re tempered to give satisfaction. REAPER AND MOWING KNIVES; complete sections always on hand, or will be made at the shortest notice. Particular attention paid to putting in order AGRICULTURAL MACHINERY. Job Grinding and Polishing by steam. Orders from the Country promptly attended to. ☞ All work warranted. Prices reasonable.

21v17-qy **J. WEICHHART, Proprietor.**

IMPORTANT TO WOOD WORKERS.

GEAR'S COMBINATION

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Asphaltum.

This mineral is abundant in California, but has not been found in any of the other States or Territories on the Pacific coast. Though generally admitted to be of the same nature and of the same origin as petroleum, and usually found in combination with that substance, it is different in appearance, and is applied to different purposes. As one of the mineral products of the coast, it is classed under a separate heading.

The principal deposits of asphaltum are found in Santa Barbara County. It is seen along the coast from the Kayamos River, the line of San Luis Ohispo County, to the boundary line of Los Angeles. In this distance it assumes a variety of forms—hard as rock, soft as putty, oozing from the cliffs in lazy streams like molten pitch, or flowing clear and liquid like oil. There are reasons for believing that a deposit underlies the country embraced within bounds above given, and extending from Buena Vista lake to the sea. A spriug of it bubbles up in the ocean several miles from the shore, opposite the northern end of the island of Santa Cruz.

Near Carpentaria solid blocks of it lie piled np on the sea beach, while near the Dos Pueblos ranch it is found as glassy and brittle as rosin. Near the mission of San Buenaventura the earth for many acres is covered with it in various stages of hardness. Deposits of a similar character are seen in the vicinity of the Santa Inez River, and in the valley of the Kayamos, to the eastward, and near Buena Vista lake, to the south.

The most accessible deposit is on the Galeta ranch, about nine miles from Santa Barbara. The residents of this part of the coast have supplied themselves with materials for roofing their houses and paving their streets from this deposit for the past fifty years, and quantities are annually sent to San Francisco for the same and other purposes.

It is estimated that the asphaltum here covers 300 acres, and extends some distance under the sea. Masses of it are seen inclosed in the rocks which form the cliffs along that portion of the coast. In some places it is quarried and carried in boats to vessels anchored at a convenient distance. At others it is gathered up along the beach, when it is loaded, in the following manner: The vessel waiting for a cargo is anchored some 300 feet from the shore. A hawser is fastened to the land; on this a large block is riven, by means of which a flat-bottomed boat is hauled to within fifty feet of the shore, just far enough to keep it out of the surf which breaks continuously on the open coast. The party on shore, having collected two or three tons, pile it on a cart with a single pair of high wheels, when three or four yoke of oxen, trained for the purpose, haul it through the surf to the boat, into which it is shifted. It sometimes happeus that the cattle employed in this business are completely submerged by the rolling billows, but they appear used to it, and stand patiently up to their ears in salt water. The boat, when loaded, is drawn to the vessel by means of the block on the hawser. This is a crude way of performing such work, and will soon be abandoned, as increase of business has induced some parties to construct a wharf of sufficient length to enable vessels to come alongside to load.

There are deposits of hard asphaltum at points between the rivers Gaviota and Buenaventura, a mile or two from the sea beach; also on the ranches of Laguna, Todos Santos, Los Alamos, and others, ranging from thirty to fifty miles from the sea; but none of these are used as a source of supply at present.

The Pacific Asphaltum Company have a quarry of this mineral six miles from Los Angeles, from which shipments are made to San Francisco. The asphaltum is hard and black, requiring to be blasted with powder to break out sufficient to supply the demand. In July, 1867, it presented a face thirty feet in depth by seventy-five feet in length, very compact and of good quality.

Previous to 1867, most of the asphaltum used at San Francisco was brought from Santa Barbara County, the rest from Los Augeles. Recently considerable quantities have been received from San Buenaventura. The latter article sells at $17 per ton when that from other places is offering at $15 per ton.

About 2,000 tons are annually used in San Francisco for making sidewalks and roofs of buildings, purposes for which it is well adapted when properly prepared. There are a dozen firms in San Francisco engaged in this business. It affords employment to about 120 men. It was introduced as a material for pavement in San

Francisco in 1855. At the present time the principal thoroughfares have the sidewalks laid with it. Some of it, after a trial of ten years, exposed to a variable climate, is still hard and smooth. It is also used for other purposes, and its consumption is increasing. The Spring Valley Water Company nso it for coating their pipes, lining their reservoirs, etc., for which it is better adapted than cement or paint.

Many of the springs on this coast deposit asphaltum; others exude petroleum. None of the petrolem springs or lagoons north of Cape Mendocino produce asphaltum. Some of the springs in Santa Barbara and other southern counties do not deposit asphaltum, though in the midst of those that do. The petroleum spring on the Cañada Larga is an illustration of this latter class.

The deposits of asphaltum in California are sufficient to supply a very large demand. The present price (August, 1867) for asphaltum delivered at San Francisco, is from $15 to $20 per ton. At the quarries and along the coast it may be had from $3 to $5 per ton.

During the summer of 1867 quarries of asphaltum were opened near Alviso, ten miles north of San José, and three miles from Santa Clara, in Santa Clara County. Both of these points are convenient to the line of the San Francisco and San José Railroad.—*Mineral Resources.*

RESINOUS ROCK.—Five miles from Green River, on the line of the Union Pacific Railroad, a rock has been on fire in a large cut. When it became first ignited, the laborers endeavored to extinguish it by throwing water on it, but in vain. They then tried to smother it with earth and failed. It is thought to be sandstone saturated with petroleum.

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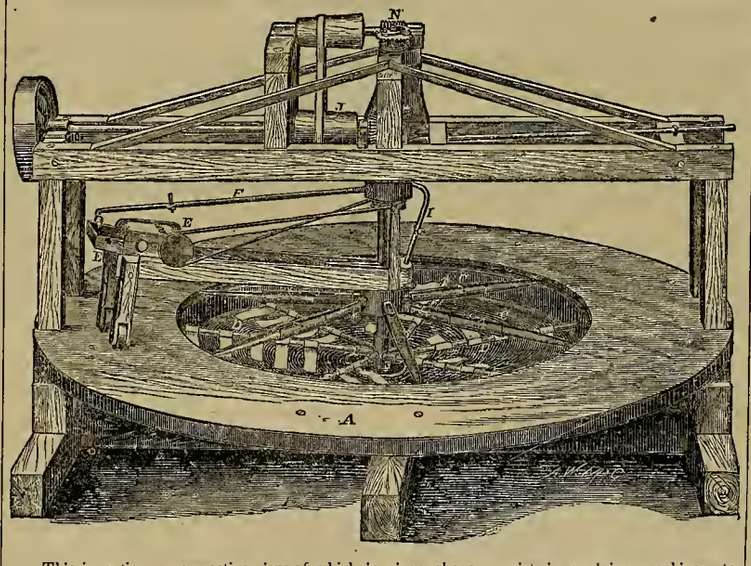
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